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Integrated Advanced Microwave Sounding Unit-A (AMSU-A)

**Engineering Test Report** 

Electromagnetic Interference (EMI)/Electromagnetic Radiation (EMR) and Electromagnetic Compatibility (EMC)
For the METSAT/METOP AMSU-A1

Contract No. NAS 5-32314 CDRL 207

## Submitted to:

National Aeronautics and Space Administration Goddard Space Flight Center Greenbelt, Maryland 20771

Submitted by:

Aerojet 1100 West Hollyvale Street Azusa, California 91702

Aerojet

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**Report 11411 26 February 1999** 

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#### **SECTION 1**

### **SUMMARY**

## 1. INTRODUCTION

This document contains the procedure and the test results of the Advanced Microwave Sounding Unit-A (AMSU-A) Electromagnetic Interference (EMI), Electromagnetic Susceptibility, and Electromagnetic Compatibility (EMC) qualification test for the Meteorological Satellite (METSAT) and the Meteorological Operation Platform (METOP) projects, assembly number 1331720-2, serial number 105. The test was conducted in accordance with the approved EMI/EMC Test Plan/Procedure, Specification number AE-26151/5D, dated 22 Sep 1998.

Aerojet intends that the presentation and submittal of this document, prepared in accordance with the objectives established by the aforementioned Test Plan/Procedure, document number AE-26151/5D, will satisfy the data requirement with respect to the AMSU-A instrument operational compliance to the EMI/EMC test requirement.

Testing of the AMSU-A instrument has been completed and all the requirements per Unique Interface Specification for the AMSU-A1, IS-2617547, and AMSU-A1 Instrument Interface Document, MO-IC-MMT-A1-0001, were met without exception. This document provides the test result data that supports this conclusion.

## 1.1 Purpose

The purpose of this test report is to describe each of the tests performed and to present the backup data collected to verify that the design objectives and specified requirements were evaluated and achieved.

#### 1.2 Scope

This document describes the EMI/EMC test performed by Aerojet and it is presented in the following manner: Section 1 contains introductory material and a brief summary of the test results. Section 2 contains more detailed descriptions of the test plan, test procedure, and test results for each type of EMI/EMC test conducted. Section 3 contains supplementary information that includes test data sheets, plots, and calculations collected during the qualification testing.

## 1.3 Summary of test results

## 1.3.1 Conducted emissions, per test method CE01, 30 Hz to 20 kHz (METOP)

The AMSU-A1 instrument meets the METOP requirements of test method CE01 in the common and differential modes of testing the power lines, without exception.

## 1.3.2 Conducted emissions, per test method CE03, 20 kHz to 50 MHz (METSAT & METOP)

The AMSU-A1 instrument meets the METSAT and METOP requirements of test method CE03 when the power lines are tested in the differential mode. The instrument also meets the METOP requirement when the power lines are tested in the common mode. In the differential mode, the conducted emissions are below the limit by 4 to 30 dB. In the common mode, all the prominent emissions approximate the limit by 11 to 17 dB.

## 1.3.3 Radiated emissions, per test method RE02, 14 kHz to 18 GHz (METSAT & METOP)

The AMSU-A1 instrument meets the METSAT requirements of test method RE02. There were some emissions at 13.7 and 15 MHz that approximated the limit. These emissions were reduced by carefully shielding the cables to the instrument. The METOP limit is 19 dB above the highest recorded emissions. The special frequencies met the requirements without any exception.

# 1.3.4 Radiated emission, per test method RE04, magnetic static field, one meter from the wall of the instrument (METSAT)

The AMSU-A1 instrument meets the METSAT static field, magnetic field requirement performed per test method RE04, without exception.

# 1.3.5 Conducted susceptibility, per test method CS01/CS02, 30 Hz to 150 kHz (METSAT)

The AMSU-A1 instrument meets the METSAT requirements of test methods CS01/CS02. This test consisted of applying the test signal on each of the power lines throughout the frequency range of 30 Hz to 150 kHz, differential mode.

## 1.3.6 Conducted susceptibility, per test method CS02, 100 kHz to 50 MHz (METOP)

The AMSU-A1 instrument meets the METOP requirement of test method CS02, common mode. This test consisted of applying the test signal on the return at the power lines via the Line Stabilization Network (LISN), throughout the frequency range of 100 kHz to 50 MHz.

# 1.3.7 Conducted susceptibility, per test method CS06, transient spike (METSAT & METOP)

The AMSU-A1 instrument meets the METSAT and METOP requirement of test method CS06, without exception.

# 1.3.8 Radiated susceptibility, per test method RS03, electric field 14 kHz to 18 GHz (METSAT & METOP)

The AMSU-A1 instrument meets the METSAT and METOP requirement of test method RS03, without exception.

## 1.4 Tests performed

The AMSU-A1 instrument was subjected to the EMI/EMC tests on the power lines under the normal voltage conditions, i.e., all tests were performed with the instrument powered with 28 Vdc. All the tests indicated in Table I were performed and the results compared to the appropriate project requirement.

Table I EMI/EMC Test Performance Matrix

Test Method & Description	METSAT minba	METOP we	+28V Main Bus	8V Main Bus Rtn	.28V Pulsed Bus Load	8V Pulsed Bus Load Rtn	.28V Analog Telemetry Bus	8V Analog Telemetry Bus Rtn	+10V Interface Bus	0V Interface Bus Rtn	+28V Safety Heater	28V Safety Heater Atn	AMSU-A Instrument
			_		+ v	2	+ v	- 2		X		X	<del>                                     </del>
CE01 (30 Hz to 20 kHz) DM		X X	X	X	X T	X	X T	Χ	X T	Χ	^	^	
CE03 20 kHz to 50 MHz) DM	X	X	X	χ	X	χ	X	χ	χ	χ	Χ	Χ	
СМ		Χ	Т		Т		T		Т				
CS01/CS02 (30 Hz to 150 kHz) DM	Х		χ	χ	Χ	Χ	χ	Χ	Χ	Χ			
CS02 (100 kHz to 50 MHz) CM		χ		X		χ		Χ		χ			
CS06 (Spike) DM	Х	Χ	χ	X	Χ	χ	X	Χ	χ	X			
RE02	Х	χ											X
RE04	Х												X
RS03	Х	X											X

X Test performed on powerline.

## 1.5 Susceptibility monitors

The monitors shown in Table II will be observed and their output recorded during the performance of the susceptibility testing:

Table Ⅱ Monitors for Susceptibility Test

Susceptibility	Line/Item	Monitor		
Conducted	+29V main power, Quiet Bus	Data output all channels		
CS01, CS02, and CS06	+29V Noisy Power Bus	Antenna Position		
Radiated	AMSU-A enclosure	Data output all channels		
RS03				

## 1.6 Pass/Fail criteria

The pass/fail criteria for the conducted and radiated emissions test was determined by inspection of the recorded emissions levels when compared to the specifications limits. All emissions shall be on or below the specification limits. When narrowband emissions exceed the broadband limits or transient spikes

T Test performed together with high side and return.

exceed the narrowband or broadband limits, the specific emission shall be identified and exempted from these criteria.

An STE EMI data collection program has been developed and is included in the bonded test software of the STE. Operation of the system and the EMI data collection program will be coordinated with operation of the EMI susceptibility signal sweeps.

The EMI data collected will provide about a five scan period at the beginning and end of each data collection period, which will allow comparison of each channel's normal radiometric response with and without the interference present. The data will be presented in the form of noise distribution plots for each of the radiometric channels and as a summary report for all channels. These data shall be reviewed as follows:

- a. Review the summary data and identify channels with alarm counts greater than ten or channels that have sigma values that are a factor of two greater than observed in baseline checks made periodically during the test.
- b. Examine the noise distribution plots for channels identified in (a), and look for disruptions during the period when the EMI signal sweep was made. If an EMI disruption results in a peak-to-peak increase in channel noise that is less than twice the normal level, then it is acceptable (pass); if the disruption creates a level shift in the noise data that is equal to or less than the normal noise level, then it is acceptable (pass).
- c. Examine all remaining plots for disruptions and identify and file the data.
- d. If any channel fails, additional sweeps will be made over a reduced frequency range and at reduced amplitudes as necessary to determine the threshold of the susceptibility.

The test will continue to establish an overall assessment of the behavior. On the Test Data Sheets, the EQUIPMENT LIMIT (EL) column will be checked when the test equipment cannot deliver the required level. Since the test equipment meets the power requirements of MIL-STD-461 and the AMSU-A instrument is not susceptible to the output of the signal source, a check on this column indicates the unit passed the test requirement. A check in the SPECIFICATION LIMIT (SL) column indicates the AMSU-A instrument met the requirements.

## **SECTION 2**

## TEST CONDUCT/RESULTS

### 2. TEST CONDUCT/RESULTS

## 2.1 Conducted emissions (CE01) test (METOP)

## 2.1.1 Purpose of test

This test was conducted to demonstrate that the electromagnetic interference currents in the power lines do not exceed the limits in Figures 1 and 2, throughout the frequency range 30 Hz to 20 kHz.

## 2.1.2 Date test started

The test began on 15 December 1998.

## 2.1.3 Date test completion

The test was completed on 15 December 1998.

## 2.1.4 Test procedure

The test procedure specified that the test be conducted as indicated in the following steps:

- 1. Connect the current probe to one of the power lines of the Main Power Bus listed in para. 3.4.4.2 (AE-26151/5D) and as depicted in Figure 5 (also in AE-26151/5D), between the feedthrough capacitor and the AMSU-A equipment.
- 2. Verify that the measuring equipment is programmed to measure between 20 Hz and 20 kHz. If necessary, program the signal analyzer for multi-scan and compare the measurement to the single scan. Capture the highest level possible in each range.
- 3. Turn ON the Main Power switch on the STE front power panel and turn ON the Main, Pulse, Analog, and Interface switches.
- 4. Adjust the Main, Pulse and Analog power supply voltage levels on the STE to +28.0 V. Adjust the Interface power supply to +10 V.
- 5. Using STE command "[9] SCANNER A1-1 POWER" or "[10] SCANNER A1-2 POWER", turn on the scanner power (the state of the command should change from OFF to ON).
- 6. Enter the appropriate STE command for the "ANTENNA FULL SCAN MODE." Verify that the command was received by observing that the state of that command has changed from NO to YES, and the instrument is scanning in full scan mode.
- 7. Allow the instrument to scan for 30 minutes so that all the temperature and power parameters have stabilized (the instrument must remain in full scan mode during the conducted emissions tests).

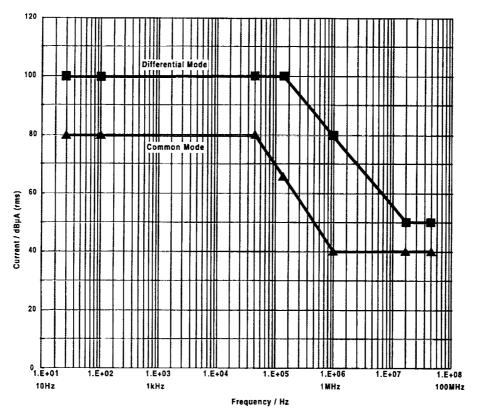


Figure 1. METOP Conducted Emission Limit, NB, DM, CM, 28V Reg. Power Leads, PLM Instrument

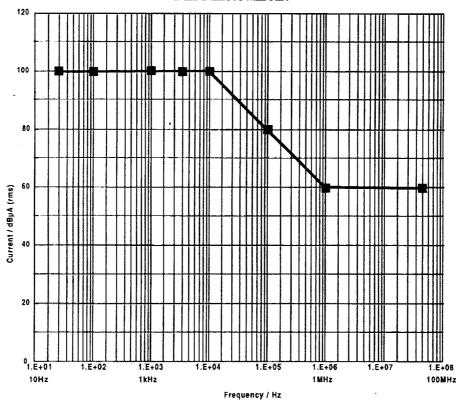


Figure 2. METOP Conducted Emission Limit, NB, DM, Thermal Control Heaters (Safety Heater)

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8. Make an X-Y plot. All narrowband measured data should be below the limit shown in Figures 3 and 4 (AE-26151/5D). If any emissions exceed or near the limit, scan the frequency range that exhibits the over-the-limit levels, reduce the frequency span, reduce the measuring bandwidth to 5 or 500 Hz, and photograph the CRT presentation or make an X-Y plot.

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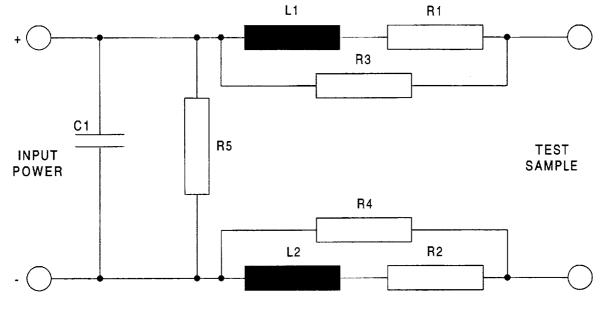
- 9. Connect the current probe to the return power line of the Main Power Bus between the feedthrough capacitor and the AMSU-A instrument.
- 10. Repeat steps 2 and 8 for the return power line. Record all conducted emissions generated by the AMSU-A instrument and compare them to the METOP requirement.
- 11. Connect the current probe to the Pulsed Load Bus power line between the feedthrough capacitor and the AMSU-A instrument.
- 12. Repeat steps 2 and 8 for the Pulsed Load Bus power line. Record all conducted emissions generated by the AMSU-A instrument.
- 13. Connect the current probe to the return power line between the feedthrough capacitor and the AMSU-A instrument.
- 14. Repeat steps 2 and 8 for the return power line. Record all conducted emissions generated by the AMSU-A instrument.
- 15. Connect the current probe to the Analog Telemetry Bus power line between the feedthrough capacitor and the AMSU-A instrument.
- 16. Repeat steps 2 and 8 for the Analog Telemetry Bus power line. Record all conducted emissions generated by the AMSU-A instrument.
- 17. Connect the current probe to the return power line between the feedthrough capacitor and the AMSU-A instrument.
- 18. Repeat steps 2 and 8 for the return power line. Record all conducted emissions generated by the AMSU-A instrument.
- 19. Connect the current probe to the +10 V Interface Bus power line between the feedthrough capacitor and the AMSU-A instrument.
- 20. Repeat steps 2 and 8 for the +10 V Interface Bus power line. Record all conducted emissions generated by the AMSU-A instrument.
- 21. Connect the current probe to the return power line between the feedthrough capacitor and the AMSU-A instrument.
- 22. Repeat steps 2 and 8 for the return power line. Record all conducted emissions generated by the AMSU-A instrument.
- 23. Connect the current probe to the Safety Heater Bus power line between the feedthrough capacitor and the AMSU-A instrument.
- 24. Repeat steps 2 and 8 for the Safety Heater Bus power line. Record all conducted emissions generated by the AMSU-A instrument.

- 25. Connect the current probe to the return power line between the feedthrough capacitor and the AMSU-A instrument.
- 26. Repeat steps 2 and 8 for the return power line. Record all conducted emissions generated by the AMSU-A instrument.
- 27. With the instrument powered OFF, replace the feedthrough capacitors with the Line Stabilization Impedance Network (LISN), shown in Figure 3, on the Main Power Bus power lines.
- 28. Connect the current probe to the Main Power Bus high side and return power lines between the LISN and the AMSU-A instrument.
- 29. Repeat steps 2 and 8 for the Main Power Bus common mode measurements. Record all conducted emissions generated by the AMSU-A instrument.
- 30. With the instrument powered OFF, locate the LISN on the Pulse Load Bus power lines.
- 31. Connect the current probe to the Pulse Load Bus high side and return power lines between the LISN and the AMSU-A instrument.
- 32. Repeat steps 2 and 8 for the Pulsed Load Bus common mode measurements. Record all conducted emissions generated by the AMSU-A instrument.
- 33. With the instrument powered OFF, locate the LISN on the Analog Telemetry Bus power lines.
- 34. Connect the current probe to the Analog Telemetry Bus high side and return power lines between the LISN and the AMSU-A instrument.
- 35. Repeat steps 2 and 8 for the Analog Telemetry Bus common mode measurements. Record all conducted emissions generated by the AMSU-A instrument.
- 36. With the instrument powered OFF, locate the LISN on the +10 V Interface Bus power lines.
- 37. Connect the current probe to the +10 V Interface Bus high side and return power lines between the LISN and the AMSU-A instrument.
- 38. Repeat steps 2 and 8 for the +10 V Interface Bus common mode measurements. Record all conducted emissions generated by the AMSU-A instrument.
- 39. Command the instrument scanner OFF and turn off the Main Power switch on the STE by entering the STE command "[9] SCANNER A1-1 POWER" or "[10] SCANNER A1-2 POWER", as applicable. The state of the command should change from ON to OFF.

#### NOTE

Command "[9] SCANNER A2 POWER" is for AMSU-A2. Commands "[9] SCANNER A1-1 POWER" and "[10] SCANNER A1-2 POWER" are for AMSU-A1.

40. Turn off the main power switch on the STE front panel.



 $R1, R2 = 20 \text{ mOhm} \pm 5 \text{ mOhm}$ 

 $R3, R4 = 25 Ohm \pm 5 \%$ 

 $R5 = 50 \text{ kOhm} \pm 5\%$ 

C1 =  $19000 \, \mu\text{F} \pm 5\%$ 

 $L1, L2 = 2 \mu H \pm 5\%$ 

Figure 3. LISN Circuit Diagram

#### 2.1.5 Test comment

This test was conducted in accordance with the above test plan, with no exceptions.

## 2.1.6 Test results

The measured conducted emission levels were below the limits of test method CE01 throughout the frequency range of 30 Hz to 20 kHz in the differential and common mode test configuration. In the differential mode, the Pulsed Load Bus power lines exhibited the highest emissions. The measured levels were 3 dB below the METSAT limit at the highest point, i.e., 60 Hz. In the common mode, the Pulsed Load Bus power lines were 11 dB below the METOP limit at 18.35 kHz. All the other power lines produced emissions from 4 to greater than 60 dB below the appropriate limit.

The AMSU-A instrument meets the METSAT and METOP requirements of test method CE01, without exception. See Plots 1 through 10 for the differential mode test data, and Plots 11 through 14 for the common mode test data in Section 3, Test Data Sheet 1.

## 2.2 Conducted emissions (CE03) test (METSAT & METOP)

## 2.2.1 Purpose of test

This test was conducted to demonstrate that the electromagnetic interference currents in the power lines do not exceed the limits in Figures 1, 2, and 4, throughout the frequency range of 20 kHz to 50 MHz.

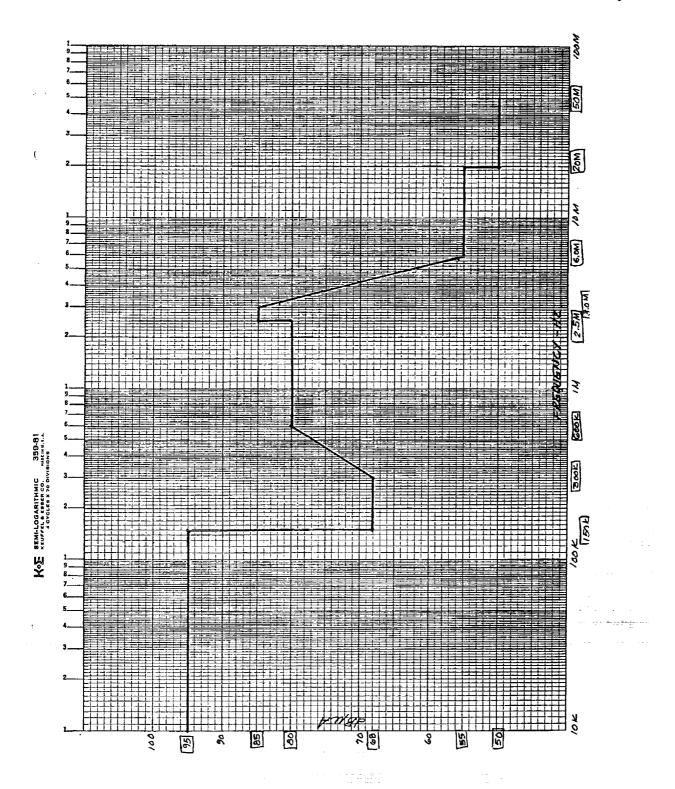


Figure 4. METSAT Narrowband Conducted Emissions Limits on Power Leads

#### 2.2.2 Date test started

The test began on 15 December 1998.

## 2.2.3 Date test completion

The test was completed on 15 December 1998.

## 2.2.4 Test procedure

The test procedure specified that the test be conducted as indicated in the following steps:

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1. Using the configuration depicted in Figure 5 (AE-26151/5D), place the current probe (91550-1) on one of the power lines listed in para. 3.4.4.2 (AE-26151/5D).

7 5 5

- Verify that the measuring equipment is programmed to measure between 20 kHz and 50 MHz.
- 3. Using the spectrum analyzer system (HP 8566B), automatically scan all narrowband data from 20 kHz to 50 MHz. Plot the CRT presentation.
- 4. All measured data should be below the limit shown in Figures 1, 2, and 4 (AE-26151/5D). If any emissions are observed to exceed or near the limit line, reduce the measuring bandwidth to 500 Hz, 5 kHz, or 50 kHz, and command the computer to print the measured level of the signal.
- 5. Repeat steps 1 through 4 on the power lines listed in para. 3.4.4.2 and repeat the steps 3 through 26 of test method CE01 for differential mode tests.
- 6. Repeat steps 27 through 38 of test method CE01 for common mode tests.
- 7. If any narrowband signal exceeds the limits, perform an ambient test and determine the source of the emanation.
- 8. Affix all plots, photos, calculations, and related information to TDS 1.

## 2.2.5 Test results

All the measured conducted emissions were below the limits of the test method CE03 throughout the frequency range of 20 kHz to 50 MHz in the differential and common mode test configuration. In the differential mode, the highest emission recorded was 4 dB below the METSAT limit. This occurred in the Pulsed Load Bus at 208 kHz, and on the Pulsed Load Bus return at 208 kHz. All other peak noise emissions are between 0 to 30 dB below the METSAT limit. When the differential mode emissions are compared to the METOP limit, the highest emission was recorded on the Safety Heater Bus high side return. The emission is 15 dB below the METOP limit at 520 kHz. All other peak noise emissions are between 30 to 38 dB below the METOP limit.

In the common mode, all the peak emissions are between 11 to 17 dB below the METOP common mode limit. See Plots 15 through 24 for the differential mode test data, and Plots 25 through 28 for the common mode test data in Section 3, Test Data Sheet 1.

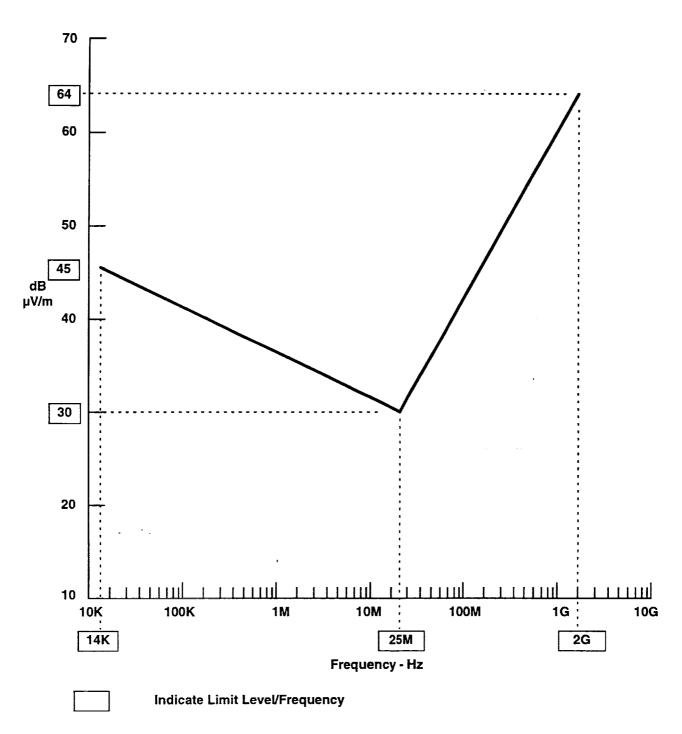


Figure 5. Radiated Narrowband Limits for Electric-Field Emission Produced by Instrument, METSAT

## 2.3 Radiated emissions (RE02) test (METSAT & METOP)

## 2.3.1 Purpose of test

The test was conducted to demonstrate that the radiated magnetic fields from the test sample and associated cables do not exceed the limits in Figures 5, 6, and 7. In addition, the radiated emissions at the special frequencies in Table III and IV shall be below the sensitivity indicated in the appropriate frequency.

## 2.3.2 Date test started

The test began on 15 December 1998. A partial retest began on 22 December 1998.

## 2.3.3 Date test completion

The test was completed on 16 December 1998. The partial retest was completed on 22 December 1998.

## 2.3.4 Test procedure

The test procedure specified that the test be conducted as indicated in the following steps:

- 1. Connect the antenna to the proper receiver/amplifier port. Verify that the AMSU-A is operating in the IN ORBIT.
- 2. Allow the EMC test equipment to warm up for a minimum of 10 minutes.
- 3. Program the spectrum analyzer system (HP 8566B) to automatically scan and plot all narrowband data from 14 kHz to 1 GHz, switching the appropriate antenna/amplifier throughout the frequency range.
- 4. All data shall be below the limits shown in Figures 6 and 8 (AE-26151/5D). If any emissions are observed to exceed the limit line, command the computer to print the measured levels.
- 5. Request of the computer all broadband data from 14 kHz to 1 GHz. Plot the CRT presentation with limits.
- 6. All data shall be below the limits shown on Figure 7 (AE-26151/5D). If any emissions are observed to exceed the limit line, command the computer to print the measured levels.
- 7. If any signals, narrowband or broadband, exceed the limits, perform an ambient test and determine the source of the emanations. Reduce or eliminate the source, if external to the AMSU-A instrument, and repeat the test.
- 8. Set up the horn antenna (RGA-180) one meter from the point of maximum radiation.
- 9. Self-calibrate the signal analyzer (HP 71210C).
- 10. Sweep throughout the frequency range of 1 to 18 GHz in a minimum of three ranges, recording the observed narrowband emission levels. Plot emissions detected throughout each frequency range.
- 11. All data shall be below the limits shown on Figures 6 and 8 (AE-26151/5D); if not, perform step 7.

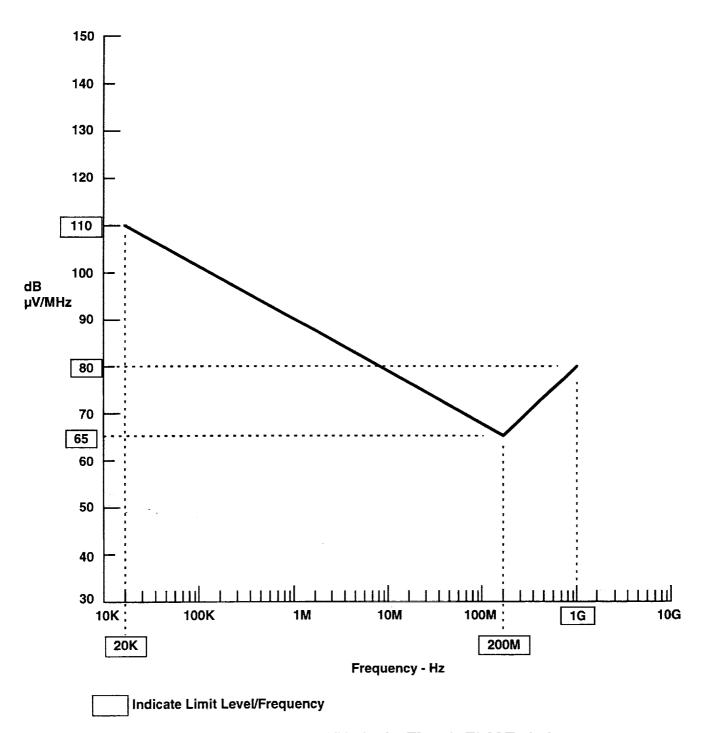


Figure 6. Radiated Broadband Limits for Electric-Field Emissions Produced by Instrument, METSAT

- 12. Affix all plots, photos, calculations, and related information to TDS 2.
- 13. After disconnecting the horn antenna, set the signal analyzer (HP 71210C) to one of the four frequencies listed in 3.4.6 (AE-26151/5D) with the appropriate frequency span.
- 14. Activate the series preamplifier (HP 70620) and reduce the test equipment bandwidth to 10 kHz or less.
- Program the signal analyzer (HP 71210C) for noise averaging to a minimum of eight times. Verify that the sensitivity noise level is below the required level.
- 16. Connect the antenna to the signal analyzer amplifier input.
- 17. The measurement should be within the ambient level, and no narrowband frequencies should be detected at the specified frequency above the sensitivity level specified in 3.4.6 (AE-26151/5D). Plot the screen presentation.
- 18. Repeat steps 13 through 17 while performing a measurement on the remaining frequencies.
- 19. Record the information regarding the test on TDS 2 and attach all plots, photos, calculations, and other related information.
- 20. Repeat steps 13 through 17 while performing measurements on the frequencies depicted on Table III (AE-26151/5D).
- 21. Repeat step 19.

#### 2.3.5 Test comment

This test was conducted in accordance to the above test plan, with no exceptions.

## 2.3.6 Test results

The AMSU-A1 instrument met all the electric field radiation requirements for the METSAT and the METOP specifications without exception. The AMSU-A1 instrument exhibited a narrowband signal emission at 15.0 MHz that approximated the limit. The emission is attributed to the STE cables that penetrate the shielded enclosure. In order to reduce the room emission due to the twenty foot cable inside the room, the shields had to be grounded to the ground plane. The broadband emissions were 30 dB or better below the limit. See Plots 101 through 106, Test Data Sheet 2.

The AMSU-A1 instrument meets the low level emissions requirements for the special frequencies related to the SARR, SARP, and DCS receiver channels. All the recorded emissions were below the required limit. Measurements were performed with the antenna positioned in two polarities, i.e., vertical and horizontal polarization. The data related to the frequencies depicted in Table IV are presented in Plots 110 through 161 of Test Data Sheet 2.

The METSAT special frequencies depicted on Table III meet the sensitivity requirements without exception. There were no emissions detected within the bandwidth of each of the special frequencies. Measurements were performed with the antenna positioned in two polarities. The data related to the frequencies of Table III are presented in Plots 162 through 187 of Test Data Sheet 2.

The METOP special frequencies depicted on the table inside Figure 7 meet the sensitivity requirement without exception. There was only one emission detected at 495.3 MHz that was 14.8 dB below the

sensitivity limit. Measurements were performed with the antenna positioned in two polarities. The data related to the frequencies listed on Figure 7 are presented in Plots 188 through 199 of Test Data Sheet 2.

The AMSU-A1 instrument meets all the electric field radiation requirements of METSAT and METOP in the frequency range of 1 to 18 GHz without exceptions. No narrowband emissions were detected throughout the measured frequency range. Measurements were performed with the antenna positioned in two polarities. The data related to this frequency range are presented in Plots 200 through 211 of Test Data Sheet 2.

## 2.4 Radiated emission (RE04) test

## 2.4.1 Purpose of test

This test was conducted to demonstrate that the radiated magnetic fields from the test sample and associated cables do not exceed the limit of one milligauss at a distance of one meter from the lateral wall of the instrument in all directions.

## 2.4.2 Date test started

The test began on 21 December 1998

## 2.4.3 Date test completion

The test was completed on 21 December 1998.

## 2.4.4 Test procedure

The test procedure specified that the test be conducted as indicated in the following steps:

- 1. Move the AMSU-A instrument, on the plastic cart, toward the probe to a distance of one meter from the wall of the instrument to the point of the probe.
- 2. Manually rotate the instrument.
- 3. With the unit activated in the IN ORBIT mode, measure the magnetic field emissions of the AMSU-A instrument. Collect test data of the magnetic field intensity by rotating the equipment clockwise and taking measurements at intervals of not less than every 30 degrees. Record the results and note the level and location on TDS 3 (AE-26151/5D).
- 4. Allow the instrument to scan for a 30 minute warm up.
- 5. At the point(s) of maximum detection, repeat measurements with the instrument in the off position. Note difference in level. If levels exceed previous measurement levels, repeat step 2 with the unit deactivated.
- 6. Review recorded data. If measurement are below the 1 milligauss level at one meter from the instrument in all directions, the test is completed. If measurements exceed the limit, measure the ambient level and proceed to step 7 or step 8.

- 7. In the event that the ambient level does not meet the requirement and the ambient cannot be reduced further because of the facility or area limitations, a minimum of three correlatable measurements shall be made in the axis of maximum field intensity but at a shorter distance than one meter. The measured levels shall be able to provide an approximate field intensity. Ambient magnetic field shall be recorded and shall be part of the test data package.
- 8. In the event that the measured level exceeds the required level, the measurements shall be made to determine the location of the center of the magnetic dipole moment producing the out-of-limit condition. A minimum of three correlatable measurements along an axis is required to plot the magnetic field.
- 9. Record all measured data, indicating level and position of the probe. Note opposing magnetic dipole moments, shield leakage, and all other pertinent data.
- 10. Repeat measurement within ten inches above and below the mid-height probe placement.

#### 2.4.5 Test comment

This test was conducted in accordance to the above test plan, with no exceptions.

#### 2.4.6 Test results

The AMSU-A1 instrument meets the requirement without exception. The instrument was measured with the unit power "OFF" and in the IN ORBIT mode. Under both conditions, the instrument magnetic field level, at three heights, do not exhibit emissions above 0.88 milligauss one meter from the unit. See Test Data Sheet 3.

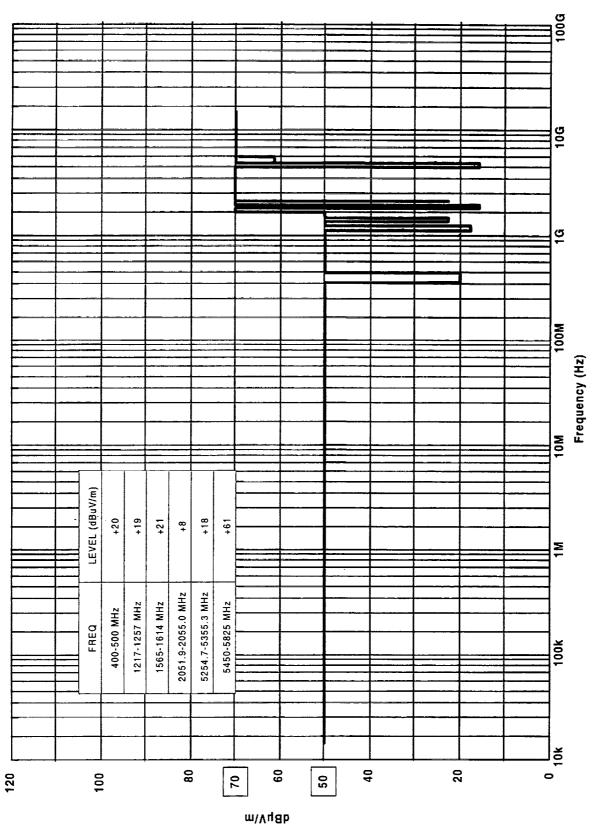


Figure 7. Radiated Narrowband Limits for Electric Field Emissions METOP Only

Table III METSAT Special Frequencies

Frequency	Receiver/Ampl Sensitivity
59.458 MHz ±0.5 kHz	-60 dBm
60.10 MHz ±0.5 kHz	-60 dBm
141.360 MHz ±0.5 kHz	–60 dBm
142.9 MHz ±0.5 kHz	−60 dBm
282.733 MHz ±0.5 kHz	−60 dBm
285.813 MHz ±0.5 kHz	−60 dBm
371.921 MHz ±0.5 kHz	60 dBm
375.972 MHz ±0.5 kHz	-60 dBm
624.925 MHz ±0.5 kHz	–60 dBm
631.730 MHz ±0.5 kHz	−60 dBm
743.841 MHz ±0.5 kHz	–60 dBm
751.944 MHz ±0.5 kHz	–60 dBm
121.5 MHz ±15 kHz *	-150 dBm (Bandwidth 100 Hz)
243 MHz ±25 kHz *	–150 dBm
	(Bandwidth 100 Hz)
401.650 MHz±50 kHz *	-150 dBm
	(Bandwidth 100 Hz)
406.05 MHz±50 kHz *	−150 dBm
	(Bandwidth 100 Hz)
2010-2040 MHz	−120 dBm

<sup>\*</sup> METOP replaces these frequencies with the frequencies in Table IV.

Table IV SARR, SARP, and DCS Receiver Channel Guard Limits

Frequency Range (MHz)	Radiation Limit (dBm)	E-Field Limit * (dB μV/m)	Notes
118.00-120.00	-100	18.9	121.5 MHz
120.00-121.450	-125	-6	121.5 MHz
121.450-121.485	-145	-26	121.5 MHz
121.485-121.515	-150	-31	121.5 MHz
121.515-121.550	-145	-26	121.5 MHz
121.550-123.000	-125	-5.9	121.5 MHz
123.000-125.000	-100	19.2	121.5 MHz
236.000-240.000	-100	24.9	243.0 MHz
240.000-242.925	-125	0	243.0 MHz
242.925-242.975	-145	-20	243.0 MHz
242.975-243.025	-150	-25	243.0 MHz
243.025-243.075	-145	-20	243.0 MHz
243.075-246.000	-125	0.1	243.0 MHz
246.000-250.000	-100	25.3	243.0 MHz
385.100-401.100	-100	29.4	406.05 <b>M</b> Hz
401.100-405.900	-125	4.5	406.05 <b>M</b> Hz
405.900-406.000	-145	-15.5	406.05 MHz
406.000-406.100	-150	-20.5	406.05 <b>M</b> Hz
406.100-406.200	-145	-15.5	406.05 MHz
406.200-411.000	-125	4.6	406.05 <b>M</b> Hz
411.000-425.000	-100	29.9	406.05 MHz
396.000-401.500	-125	4.4	401.65 MHz
401.500-401.600	-145	-15.6	401.65 MHz
401.600-401.700	-150	-20.6	401.65 <b>M</b> Hz
401.700-401.800	-145	-15.6	401.65 MHz
401.800-406.000	-125	4.5	401.65 MHz

<sup>\*</sup> E-field limits have been calculated by METOP and are for reference only. The following formula has been applied for translating Power levels to Field strength levels.

$$E[dB\mu V/m] = P[dBm] - Gr[dBi] + 20 \log(f[Hz]) - 42.7$$

where P is the received power, Gr is the gain of the receiving antenna and f is the frequency. Note that Gr has arbitrarily been set to 0 dB (isotropic) in calculating the above levels. E-field limits would have to be adjusted to reflect actual test antenna characteristics.

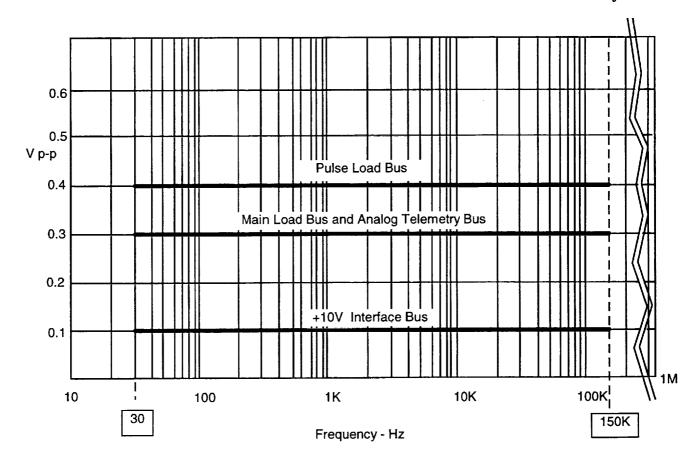


Figure 8. Ripple and Noise Susceptibility Limit

# 2.5 Conducted Susceptibility (CS01/CS02) test (METSAT & METOP)

## 2.5.1 Purpose of test

The test was conducted to demonstrate that the test sample is not susceptible to transformer-coupled audio frequency conducted interference levels on the input power leads, to the levels indicated in Figure 8

#### 2.5.2 Date test started

The test began on 11 December 1998.

## 2.5.3 Date test completion

The test was completed on 12 December 1998.

## 2.5.4 Test procedure

The test procedure specified that the test be conducted as indicated in the following steps:

1. With the setup shown in Figure 9, apply power to all the test equipment and set the power amplifier to ON, and the "Right/Mono Gain" knob to min. (counterclockwise).

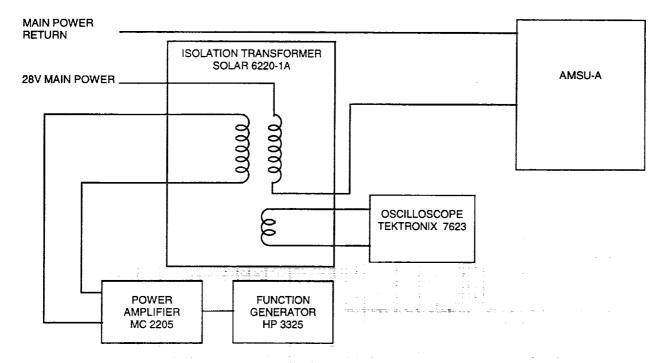


Figure 9. CS01 Test Setup

2. Set the function generator to sweep from 30 Hz to 50 kHz, using the following discrete frequency ranges with a sweep rate of 90 seconds per range:

30 - 300 Hz 3.0 - 30.0 kHz 300 Hz - 3.0 kHz 30.0 - 150.0 kHz.

- 3. Set the scan mode to SINGLE Sweep.
- 4. Monitor the output with an oscilloscope and adjust the output level to the indicated voltage requirement.
- 5. Set the appropriate switches to the OFF position on the breakout box.
- 6. Apply power to the power amplifier and adjust the amplifier and generator levels to obtain levels on the display that are equal than the levels indicated in Figure 11 (AE-26151/5D).
- 7. Monitor the test sample for errors and at selected frequencies get a printout of the monitored channel's performance data.
- 8. Record on TDS 4 the completion of scanning of each function generator's tuning range.

  Record each frequency at which a failure occurs and the interference level threshold for failure.
- 9. Repeat steps 5 through 8 on the power leads listed in 3.4.4.2.c (AE-26151/5D).

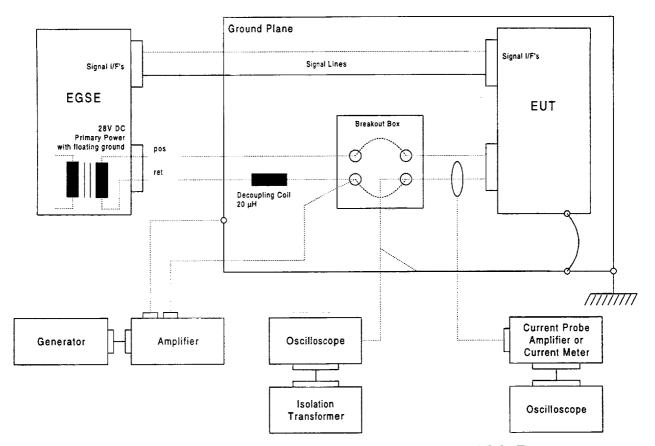


Figure 10. Common Mode Noise Test on the +28V Main Bus

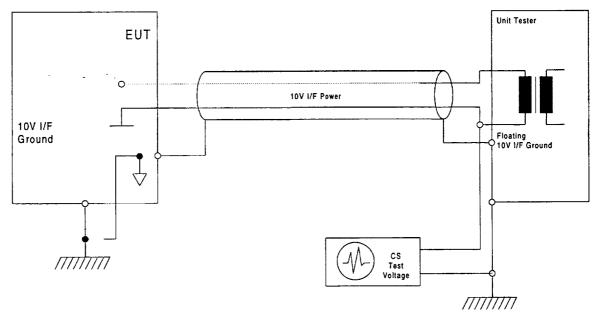


Figure 11. Common Mode Noise Test on the +10V Interface Bus

#### 2.5.5 Test comment

This test was conducted in accordance to the test plan, without exception.

### 2.5.6 Test results

The AMSU-A1 instrument meets the requirements of test method CS01/CS02 throughout the frequency range of 30 Hz through 150 kHz. Throughout the conducted susceptibility test, the instrument did not exhibit any indication of susceptibility. This test was conducted in the differential mode noise test. See Test Data Sheet 4 in Section 3.

## 2.6 Conduct Susceptibility (CS02) test (METOP)

## 2.6.1 Purpose of test

This test was conducted to demonstrate that the test sample is not susceptible common mode noise of 300 mV p-p injected on the input power return leads using the test setup indicated in Figures 10 and 11. The frequency range of interest covers the range of 100 kHz to 50 MHz.

#### 2.6.2 Date test started

The test began on 14 December 1998.

## 2.6.3 Date test completion

The test was completed on 14 December 1998.

## 2.6.4 Test procedure

The test procedure specified that the test be conducted as indicated in the following steps:

- 1. The instrument shall be connected as shown in Figures 13 or 14 (AE-26151/5D).
- 2. Apply power to the test equipment.
- 3. Sweep the function generator from 100 kHz to 50 MHz in the frequency ranges indicated below:

100 to 500 kHz 5 to 10 MHz 500 to 1000 kHz 10 to 20 MHz

1 to 5 MHz 20 to 50 MHz

- 4. Each frequency range shall be swept at a 90 second rate. Perform data collection test in accordance with Appendix C (AE-26151/5D).
- 5. Monitor the output signals and adjust the level as required. Record the frequency range covered and the minimum voltage injected during the test on TDS 5.
- 6. Repeat steps 1 through 5 on the other lines listed in 3.4.4.2.c (AE-26151/5D).

### 2.6.5 Test comment

This test was conducted in accordance to the test plan, without exception.

#### 2.6.6 Test results

The AMSU-A1 instrument meets the requirement of test method CS02, common mode test, throughout the frequency range of 100 kHz to 50 MHz. No malfunction or reduction of performance was noted during the conduct of the test. This test was conducted in the common mode noise test. See Test Data Sheet 5 in Section 3.

## 2.7 Conduct Susceptibility (CS06) test (METSAT & METOP)

## 2.7.1 Purpose of test

This test was conducted to demonstrate that the test sample is not susceptible to transient spike conducted interference on the input power leads, as shown in Figure 12.

No failures shall occur when the voltage waveform indicated is applied to the input power line, at the level and polarity indicated below:

<u>Bus</u>	Spike Level
+28 V Main Bus	10 V positive, 12 V negative
+28 V Telemetry Bus	10 V positive, 12 V negative
+28 V Pulsed Load Bus	8 V positive, 13 V negative
+10 V Interface Bus	1 V positive, 1 V negative

#### 2.7.2 Date test started

The test was started on 22 December 1988.

## 2.7.3 Date test completion

The test was completed on 22 December 1998.

#### 2.7.4 Test procedure

The test procedure specified that the test be conducted as indicated in the following steps:

- 1. Connect the test equipment per Figure 13.
- 2. With the AMSU-A1 instrument operating, adjust the transient generator to produce the spike of Figure 12 to the level specified in 2.7.1 above.
- 3. Apply the spike at a 10 pps rate for 5 minutes to the main power line.
- 4. Monitor the test sample for errors.
- 5. Reverse the spike polarity and level as indicated in 2.7.1. Repeat steps 3 through 4.

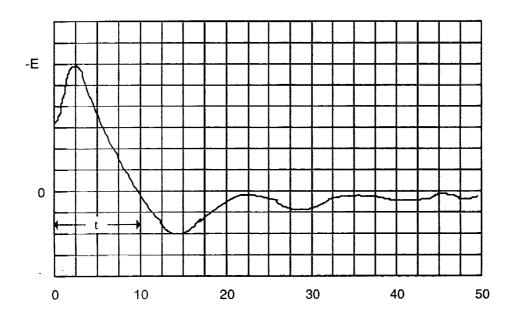
- 6. Record the completion of each test on TDS 6. If failures occur, record the pulse amplitude and polarity.
- 7. Repeat steps 1 through 6 on the other lines listed in 3.4.4.2.d (AE-26151/5D).

### 2.7.5 Test comment

The test was conducted in accordance to the above test plan, with no exceptions.

### 2.7.6 Test results

The AMSU-A1 instrument meets the requirement of test method CS06 without any exceptions. No malfunction or reduction of performance was noted during the entire conduct of this test. The same test level satisfies the METSAT and METOP requirements. See Test Data Sheet 6 in Section 3.



-E = AS SPECIFIED IN 3.4.9.2 (AE-26151/5D).

t = 10 MICROSECONDS.

Figure 12. CS06 Transient Waveform

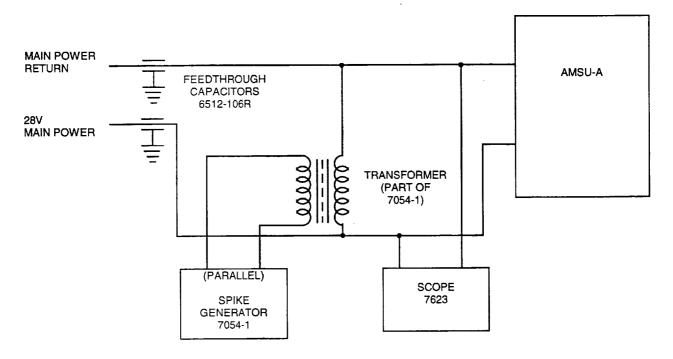


Figure 13. CS06 Test Setup

### 2.8 Radiated Susceptibility (RS03) test

### 2.8.1 Purpose of test

This test was performed to demonstrate that the test sample and associated cables are not susceptible to the radiated electric fields shown in Table V.

#### 2.8.2 Date test started

The test began on 17 December 1998.

### 2.8.3 Date test completion

The test was completed on 21 December 1998.

#### 2.8.4 Test procedure

The test procedure specified that the test be conducted as indicated in the following steps:

- 1. Power on all test equipment and allow a 15 minute warm-up time before continuing.
- 2. Set the generator level control to REAR ONLY.
- 3. Adjust the signal generator for a 160 mV output signal.
- 4. Adjust the Electric Field Monitor to read the generated electric field on all three orthogonal axes. Since the sensitivity presented on the monitor's digital display is 1.3 V/m, minimum, adjust the electric field level to read 2 V/m.

5. Adjust the level to that indicated in Table VI (AE-26151/5D) throughout the frequency range of 14 kHz to 1 MHz, in the following steps:

14 - 100 kHz

 $100 - 500 \, \text{kHz}$ 

500 - 1000 kHz.

- 6. As the frequency range is being scanned at a 90 sec rate, check the leveling by varying the signal drive to the power amplifier.
- 7. At 1 MHz, switch the antenna FUNCTION switch to the 1 to 30 MHz range.
- 8. Adjust the level control to the power amplifier to the required level in the frequency range of 1 MHz to 30 MHz in the following steps:

1 - 5 MHz 5 - 8 MHz 8 - 12 MHz 12 -20 MHz 20 - 30 MHz.

- 9. Monitor the Function Test for each channel by performing data collection test in accordance with Appendix C (AE-26151/5D). Record observation on TDS 7 and attach a printout of the monitored channels' performance data (obtain a baseline before starting the frequency scans, and ensure that the level is as low as possible).
- 10. Replace the broadband antenna with the biconical antenna.
- 11. With the frequency set at 30 MHz, adjust the output of the power amplifier for 2 volts per meter.
- 12. Operate the test equipment controls during the scan. Monitor the test sample for errors while scanning the frequency range between 25 and 200 MHz and recording the data as required in Step 9, using the following frequency ranges:

30 - 50 MHz 50 - 100 MHz 100 - 200 MHz.

- 13. Repeat step 12 with the antenna in a different polarization.
- 14. Connect the test equipment as shown in Figure 18 (AE-26151/5D). Monitor the radiated level using the electric field monitor and antennas indicated in 3.4.6 (AE-26151/5D).
- 15. Adjust the gain of the amplifier for 2 volts per meter field strength at 200 MHz. Monitor the level with the electric field monitor.
- 16. If susceptibility occurs, reduce the output power of the amplifier and determine the susceptibility threshold. Record all pertinent information on TDS 7.
- 17. Connect the log conical (or horn) antenna as shown on in Figure 18 and connect to the appropriate amplifier.
- 18. Adjust the gain of the amplifier to the level indicated to produce 2 volts per meter from 200 to 500 MHz (18 GHz for the METOP instrument) or use the calibration procedure of step 14.

Table V Additional Test Frequencies

Frequency	MET	SAT	METOP				
(MHz)	AMSU-A1 AMSU-A (V/M) (V/M)		AMSU-A1 (V/M)	AMSU-A2 (V/M)			
137.35/137.77		5.0					
137.1 *	-	-	37	32			
137.5/137.62	6.9	9.0	•	-			
468 *		•	12	18			
1544.5 *	10.5	22.5	14	31			
1698.0	9.8	22.5	-	•			
1701.3 *	•	-	38	52			
1702.5	4.8	8.2	•	-			
1707.0	18.4	13.1	-	•			
2230.0 *	-	-	10	10			
2247.5	4.3	10.3	-	-			
5250.0 *	-	-	38	45			
7800.0 *	-	-	8	13			
14 kHz/500 MHz *	1	1	1	1			
500 MHz/1 GHz *	-	-	1	1			
1/18 GHz *	-	-	2	2			
* Requires modulation	of the applied e	lectric field as in	dicated below:				
14 kHz to 18		Amplitude modulated by a sine wave at 1 kHz with a modulation depth of 50%.					
<b>13</b> 7.1 MHz	, Pulsed at	, Pulsed at 38.25 kHz PRF, 50% duty cycle.					
468 MHz	Pulsed at	Pulsed at 1 kHz PRF, 50% duty cycle.					
1,544.5 MHz	FM, 400 l	FM, 400 kHz peak, deviation modulation index $M = 1$ .					
1,701.3 MHz	Pulsed 2.	Pulsed 2.25 MHz PRF, 50% duty cycle.					
<b>2,</b> 2230 MHz	Pulsed 4	kHz PRF, 50% c	luty <b>cycle</b> .				
5,250.0 MHz		idth = 8.22 ms, c pulsed width = 1 94.	•				
7,800.0 MHz	Pulsed 35	5 MHz PRF, 50%	duty cycle.				

- 19. If susceptibility occurs, reduce the output power of the power amplifier and determine the susceptibility threshold. Record all pertinent information on TDS 7.
- 20. Using the appropriate antenna, repeat susceptibility testing at the specific levels and frequencies indicated in Table V, throughout the frequency range of 500 MHz to 1 GHz.
- 21. Record the completion of the frequency band and appropriate information in the event of a susceptibility indication.
- 22. Continue the test with the same setup throughout the frequency range of 500 MHz to 1 GHz at a 2 volts/meter level. Use the following frequency bands:

500 - 700 MHz

700 - 1000 MHz

- 23. Using the horn antenna and the TWT amplifiers, cover the frequency range of 1 to 18 GHz. Use frequency range steps that provide a reasonably flat response of the amplifier.
- 24. Using the appropriate antenna and amplifier, perform the special frequency test indicated in Table V.
- 25. Calibrate the applied field with the two antenna methods.
- 26. Supply the indicated frequency at the required level for 90 seconds. At the mid interval of the applied time, rotate the antenna to the other polarization.
- 27. Record the completion of the frequency test and all appropriate information in the event of a susceptibility indication.
- 28. Repeat steps 24 through 27 for the other discrete frequencies.

#### 2.8.5 Test comment

This test was conducted in accordance to the above test plan, with one exception. The special frequency 7.8 GHz was modulated with a pulsed 15 MHz PRF, 50% duty cycle, instead of the 35 MHz pulse required.

#### 2.8.6 Test results

The AMSU-A1 instrument meets the electric field radiated susceptibility requirements of test method RS03 and the special frequencies, without exception. No malfunction and/or degradation of performance was noted during performance of this test. The special frequency of 7.8 GHz was modulated with a 15 MHz pulse, which was the maximum frequency obtained by the test instrumentation. This is a frequency that if induced into the sensitive channel, could provide a response. Since none was noted, the applied level did not cause susceptibility. See Test Data Sheet 7 in Section 3.

## **SECTION 3**

### SUPPLEMENTARY INFORMATION

## 3. SUPPLEMENTARY INFORMATION

This section contains Test Data Sheets, Plots, factors, and calculations.

# TEST DATA SHEET 1 (Sheet 1 of 4) 3.4.5: CE01/CE03 Test

Tool Salva Varified: Real N Change 7.									
Test Setup Verified: Kegel W Signature									
3.4.5.	3.1 Step 1: Test Equipn	Step 1: Test Equipment Log  Item Manufacturer		Model/ Aerojet Part No. Inventory No.			Calibration Date	Calibration Due Date	
SYSTEM ANALYZER H-P			356		5	3898	5/12/97	4/12/99	
-			747	5A	5A 47417		CNR	CNR	
	OLOTTER		H-P		-28			4/23/97	10/23/99
CURI	RENT PROBE		AILTECH					N/A	N/A
	.15N	NA.		N/r					· N/R
250	N BREAKOUT BOX	AFRCJ	<i></i>	FT 57 13587		E/N 002		N/A	
					•				
	.3.2: Emission Measure Power Line	ments, 3	nts, 30 Hz to 20 kHz. (Dand Required		M) Emiss	Emissions within limits?		Comments/ Observations	
Step	FOWER Line				Yes No				
4	+28V Main Bus	Narrow	See Figures 2 & 3		•			Plot # 1	
4	28V Main Bus Rtn	Narrow	See Figures 2 & 3				-	2	
7	+28V Telemetry Bus	Narrow	See Figures 2 & 3		/			3	
7	28V Telemetry Bus Rtn	Narrow	See Figures 2 & 3					4	
7	+28V PLB	Narrow	See Figures 2 & 3		-			5	-
7	28V PLB Rtn	Narrow	See Figures 2 & 3		•			6	
7	+10V Interface Bus	Narrow	See Figur	See Figures 2 & 3					
7	10V Interface Bus Ret	Narrow	See Figur	See Figures 2 & 3				0	
7	Safety Heater	Narrow	See Fig	See Figure 4		/		9	
7	Safety Heater Return	Narrow	See Fig	See Figure 4				10	
NOTE: Attach all backup data generated during the test (photos, printouts, plots, test logs, additional comments or observations, etc.) to this data sheet.  Signature/Date									
	100811- A1 /M	FTSA:			Engir	neer: 4	Willia	A. Parka	15 DEC 1998
Unit	AMSU-A1/M			-	•	•	(74)	1.12/15/98	
				_		Quality Control: (258) / //5/198  Customer Representative:			12-16-90
,ho	p Order <u>453932</u>	Oper_	028000	0	Cust	omer	Hepresenta	alive.	16-19-79

AE-2515 / 51 22 Set 91

# TEST DATA SHEET 1 (Sheet 2 of 4) 3.4.5: CE01/CE03 Test

<del>-</del> -	3.4.5: CE01/CE03 1est	
	12-15-95	
Test Setup Verified:	Signature	
•	- <b>-</b>	

4.5.3.2	Emission Measur	rements, 30	Required	Emissions v	vithin limits?	Comments Observations
tep	Power Line	Band	11040	Yes	No	
	and the Para	Narrow	See Figure 2	-		Plo+ # 11
	8V Main Bus		See Figure 2	V		12
7 +2	8V Telemetry Bus	Narrow		+		13
7 2	28V PLB	Narrow	See Figure 2		\	
	10V Interface Bus	Narrow	See Figure 2		1	14

NOTE: Attach all backup data generated during the test (photos, printouts, plots, test logs, additional comments or observations, etc.) to this data sheet.

	Signature/Date
Unit AMSU-A1/METSAT	Engineer: 274 - 6 Fabr / 15 0 F C 1 9 9 8  Quality Control: 12/15/9 4
Serial No	Ouality Control: (1252 11/5)9 Y  Customer Representative: 12-16-98
Shop Order <u>65 3 93 2</u> Oper <u>280</u>	Customer Representative.

# TEST DATA SHEET 1 (Sheet 3 of 4) 3.4.5: CE01/CE03 Test

				CEOILCE			20.21		
Test Setup Verified: Kun Signa			(er)		13-	15-98			
		nent i oc	Signa	ature					Columnation
3.4.5.	3.1 Step 1: Test Equipm	Manu	facturer	Model/		Α	eroje:	Calibration	Calibration Due Date
	Item			Part	No.	Inve	ntory No.	Date	Due Date
	CTRUM ANALYZER	H-P		8566B		R30	c 692	8/13/98	8/13/99
SHE	( /KWH) THOUSE	1		7475	7475A 474/7		4/7	CNR	CN1P
PL	OTTER	H-P		17/3	7475 A 4741				1/14/00
Am	PUFIER	H-F	H-P		F			1/14/95	1/14/99
cu	RRENT PROBE	AIL	TECH	9155	50-28 L 509571		4/23/97		
		-B0 A	<b>T</b> = T	SK 1358	704-2		59002	N/A	NA
15	PIN BREAKONT BIX	HERC	JE 1						.
						<u> </u>			1
3.4.5	3.2: Emission Measure	ments, 2	0 kHz to 50	) MHz, ([	DM)		debis limies	Cor	nments/
Step	Power Line	Band	nd Require		E111134	ssions within limits		Observations	
		-			Ye		110	1	./ -
4	+28V Main Bus	Narrow	See Figures 2 & 3					PLOT # 15	
, 4	28V Main Bus Rtn	Narrow	See Figures 2 & 3					14	
7	+28V Telemetry Bus	Narrow	See Figures 2 & 3		,			17	
7	28V Telemetry Bus Rtn	Narrow	See Figures 2 & 3		"				18
7	+28V PLB	Narrow	See Figures 2 & 3		•				19
7	28V PLB Rtn	Narrow	See Figures 2 & 3		,				20
7	+10V Interface Bus	Narrow	See Figur	es 2 & 3	<u>                                     </u>	/_			21
7	10V Interface Bus Ret	Narrow	See Figur	es 2 & 3	,				22
7	Safety Heater	Narrow	See Fig	gure 4	•	_			23
7	Safety Heater Return	Narrow	See Fig	See Figure 4		/			24
NOT	E: Attach all backup da or observations, etc.	ta genera ) to this d	ited during ata sheet.	the test	(photos	s, print	outs, plots <u>Si</u>	, test logs, add	itional comment
1	AMSU-A1	MET	SAT_	<del>-</del>			Orally	12/15/98	150EC 19
	al No. 105			_		-			14 11-00
no	nop Order <u>65 3 9 3 2</u> Oper <u>280</u>					tomer	Represent	ative:	12-16-98

AE-In 5 10 22 825 93

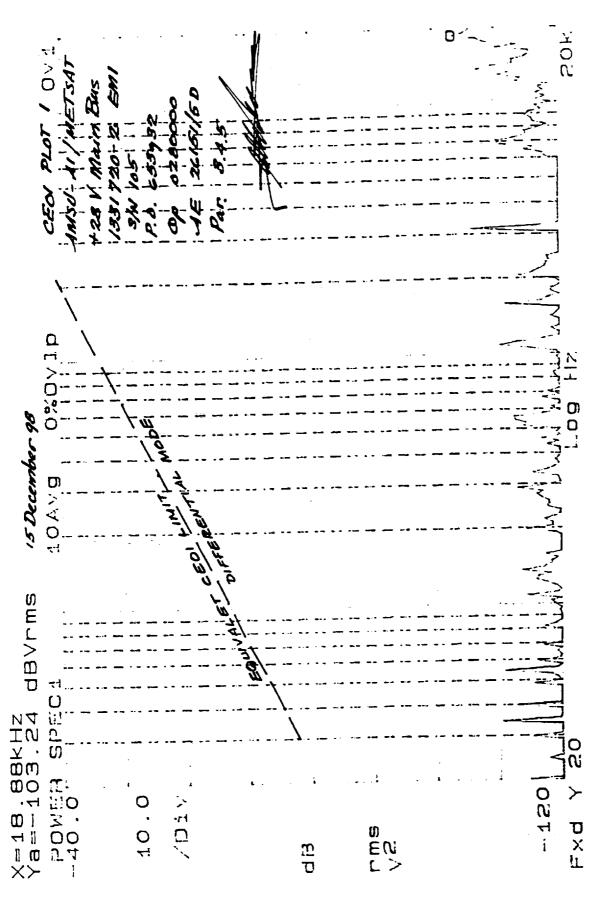
## TEST DATA SHEET 1 (Sheet 4 of 4) 3.4.5: CE01/CE03 Test

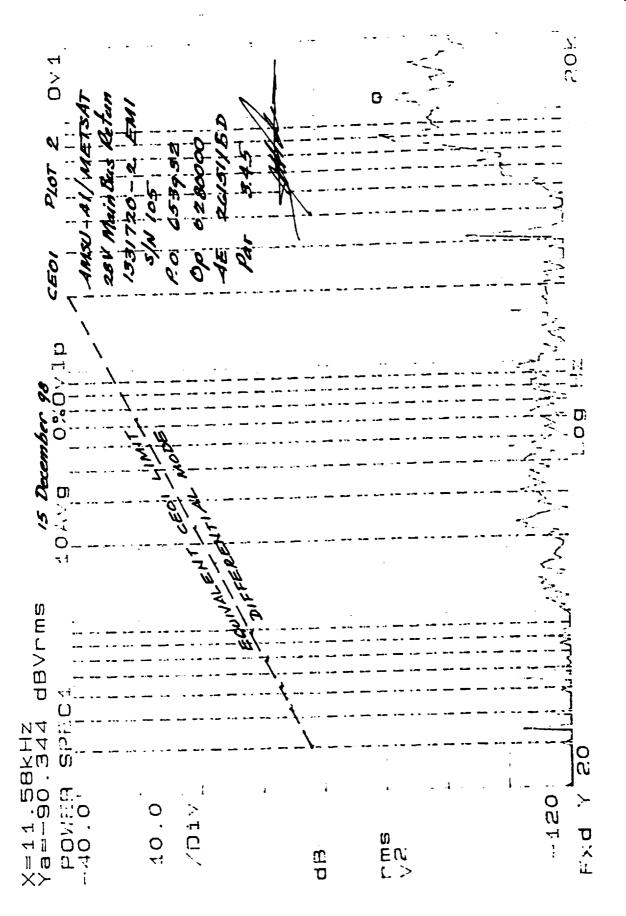
3.4.5.3.1 Step 1: Test Equipm Item	Manufacturer	Model/ Part No.	Aerojet Inventory No.	Calibration Date	Calibration Due Date
25 PIN BREAKOUT BCK	AERCJET	5x135 8704-2	743-5916 57 C/N CCI	N/F	1/2
RF CURRENT PROBE	AILTECH	91550-28	6-509571 31N 774	4/23;07	10/23/99
LISN	(ESTEC-EMC TEST FACILITY) NASA	N/A	NA	NIA	באיר האיר באיר האיר
SPECTRUM ANALYZER	H-P	8566B	R300 68 0	8/13/95	5/ 3 80
AMPLIFIER	H-P	8447 F W/OPT HL4	L 200 =30	1/10/08	Marion
PLOTTER	H-P	7475A	47417	CNR	CNIK

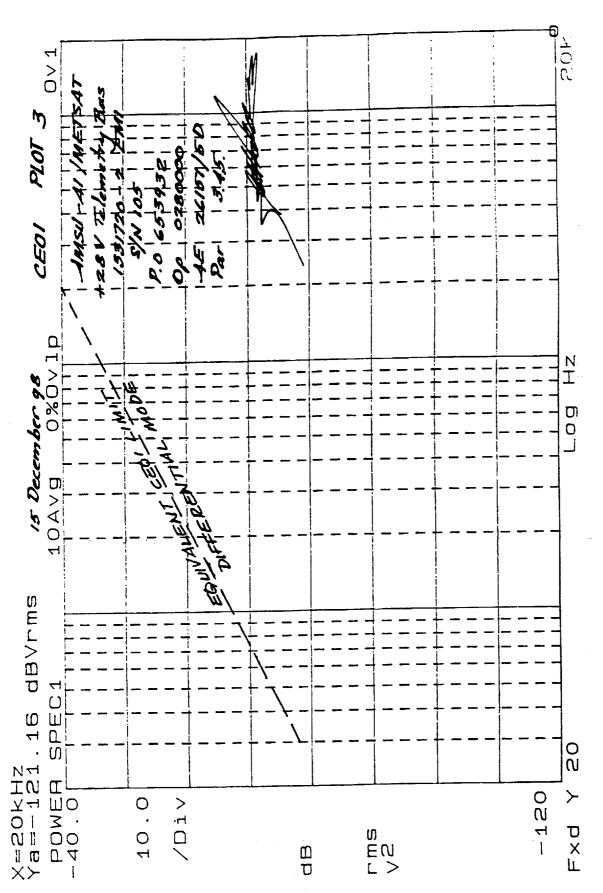
3.4.5.3.2: Emission Measurements, 20 kHz to 50 MHz, (CM) Comments/ Emissions within limits? Required Band **Power Line** Step Observations No Yes PLOT # 25 See Figure 2 Narrow +28V Main Bus 26 Narrow +28V Telemetry Bus See Figure 2.3 27 +28V PLB Narrow 28 See Figure 2 3 Narrow +10V Interface Bus

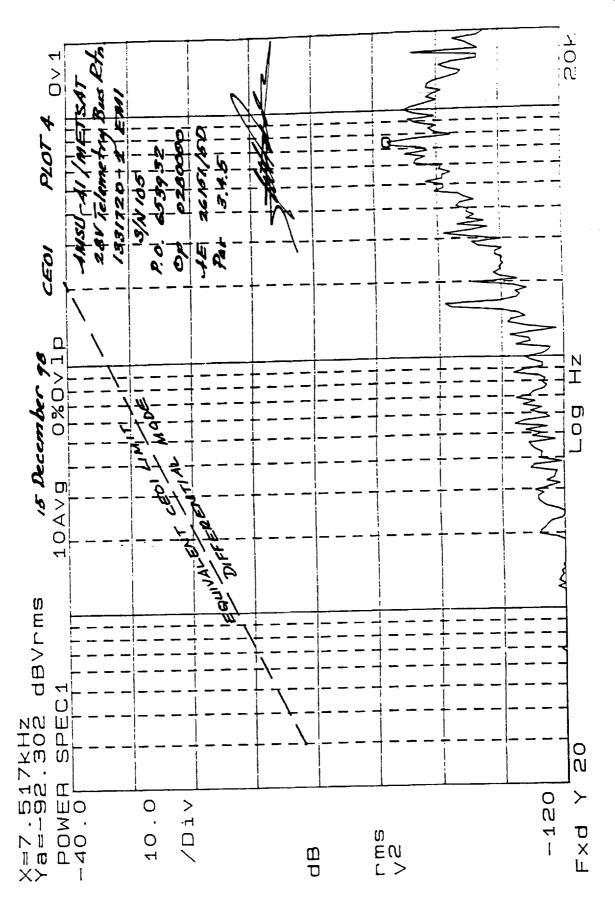
NOTE: Attach all backup data generated during the test (photos, printouts, plots, test logs, additional comments or observations, etc.) to this data sheet.

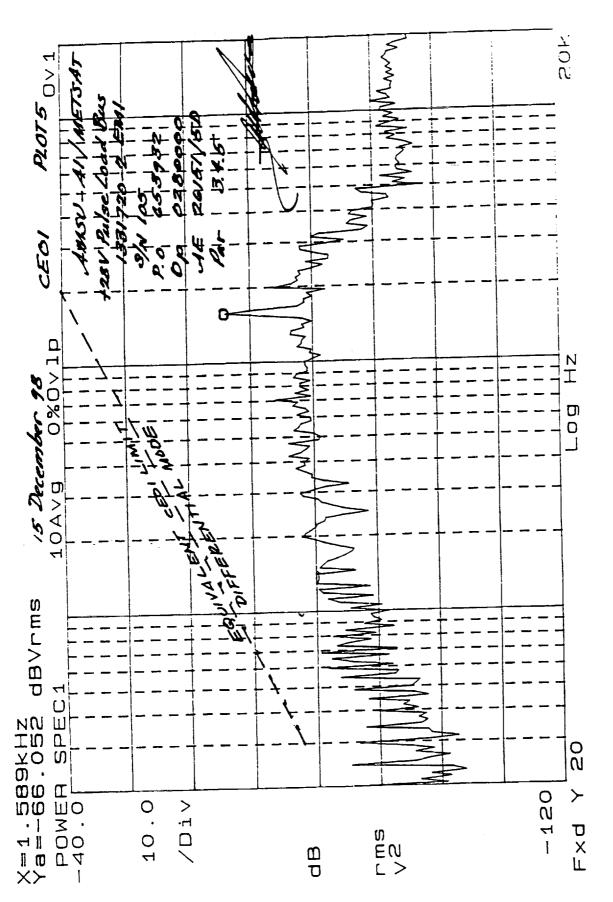
	Signature/Date
Unit AMSU-A1/METSAT	Engineer: Million A Parker /15 DEC 1998  Quality Control: (25°) 15/98
Serial No	Customer Representative: /2-/6-98

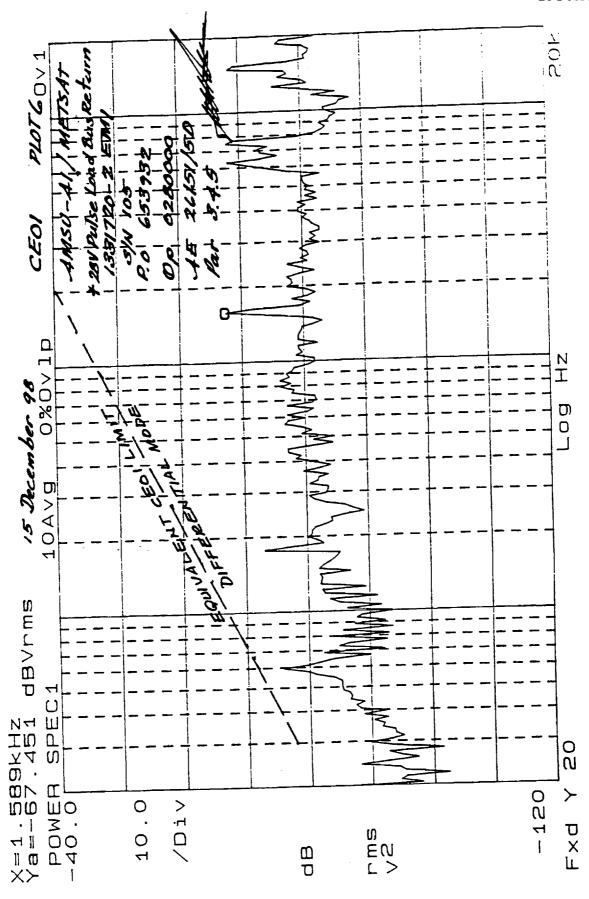


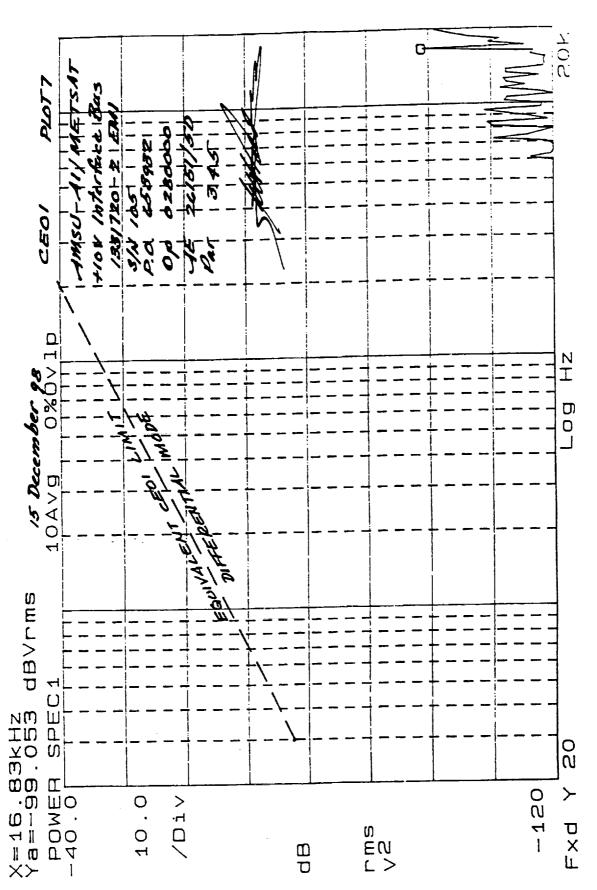


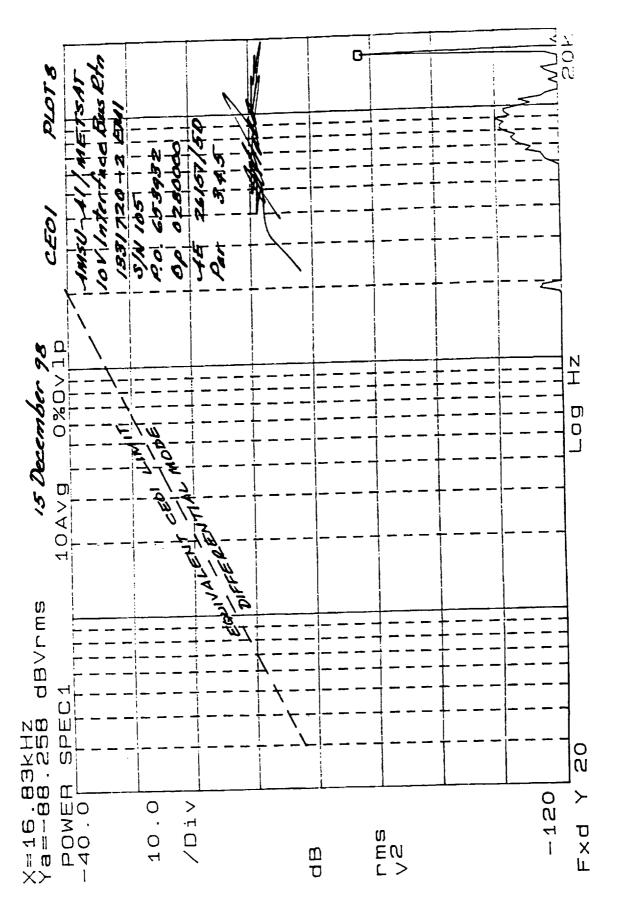


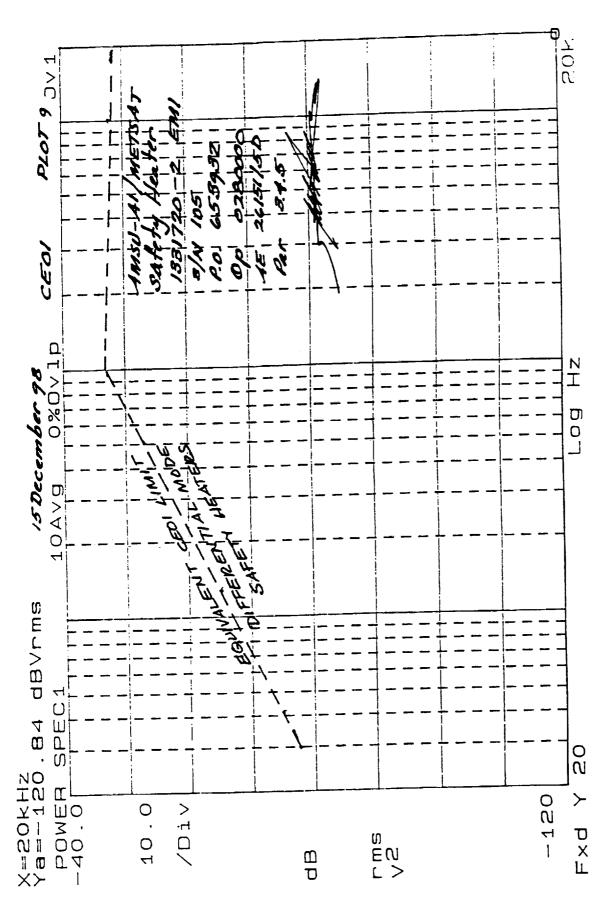


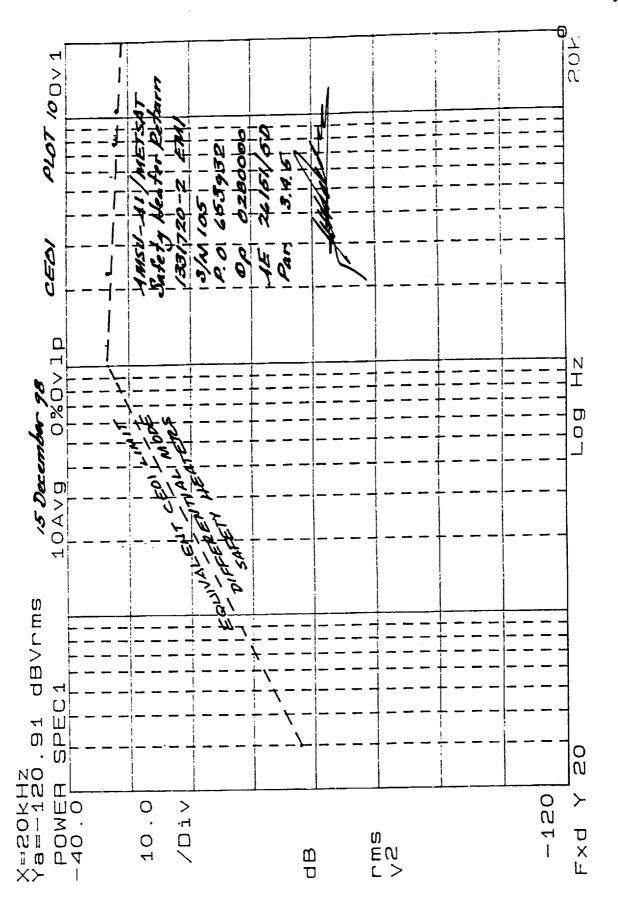


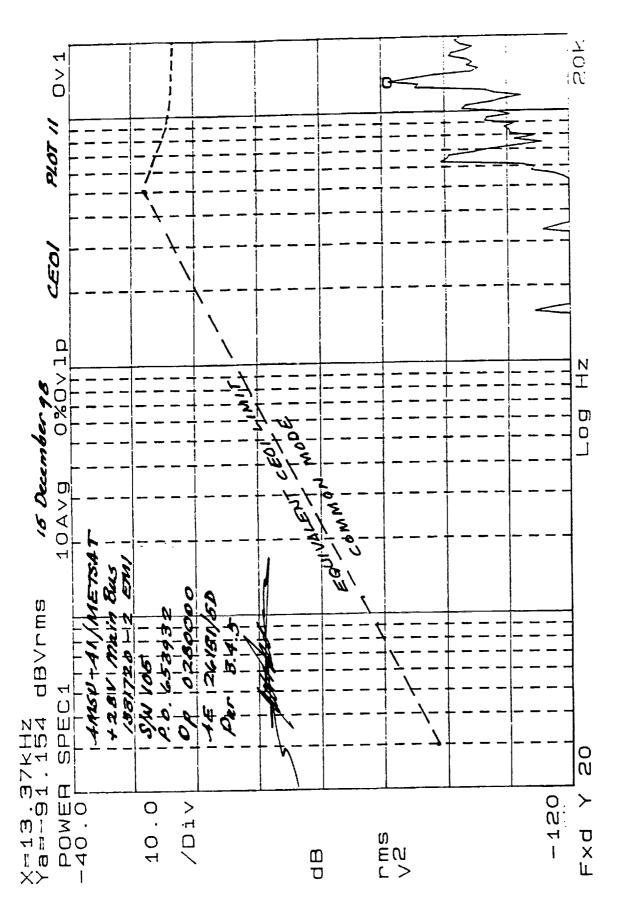


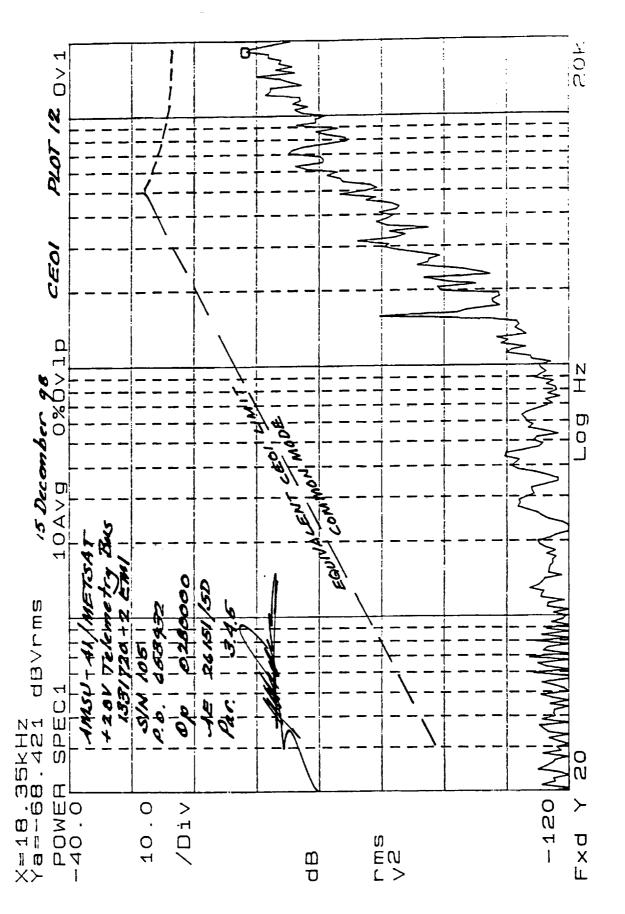


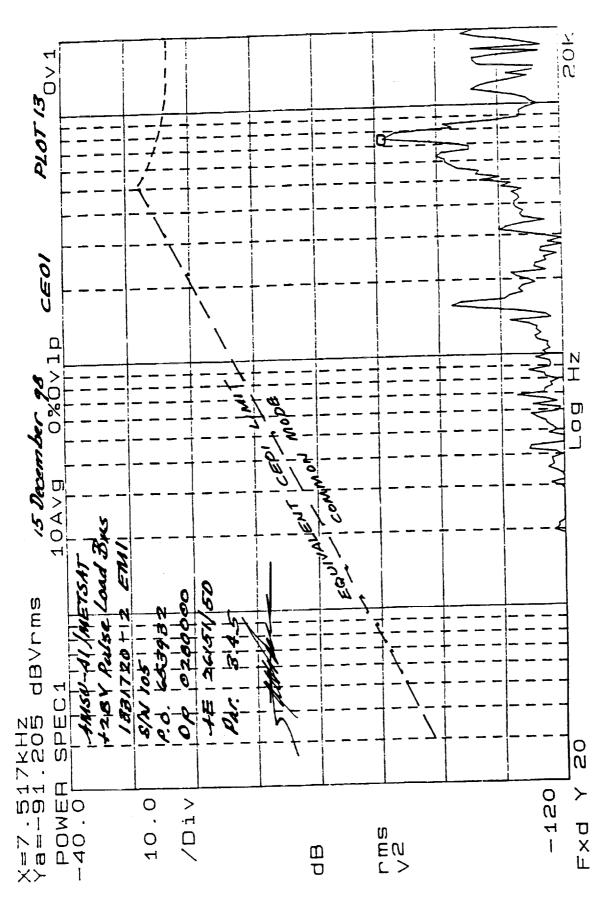


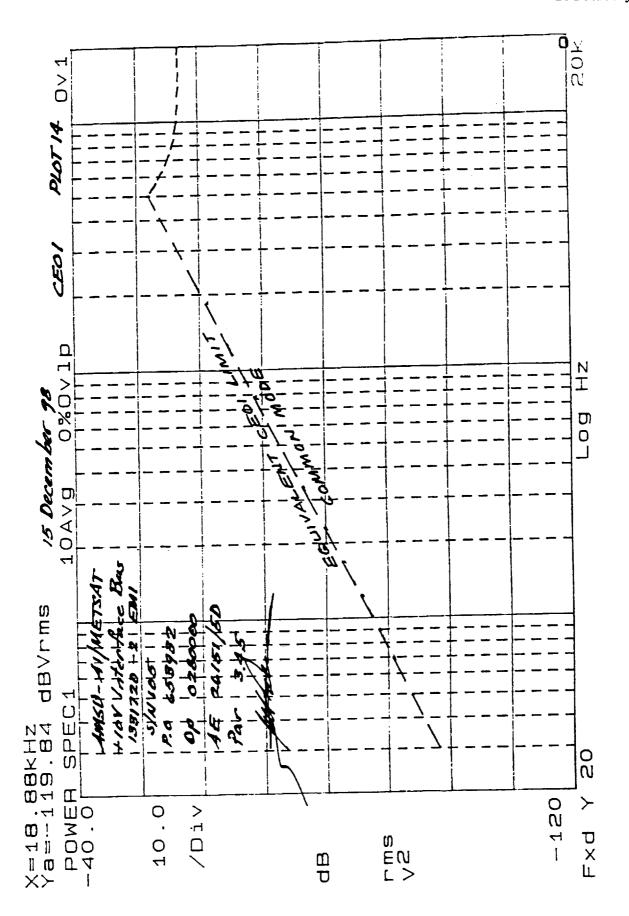


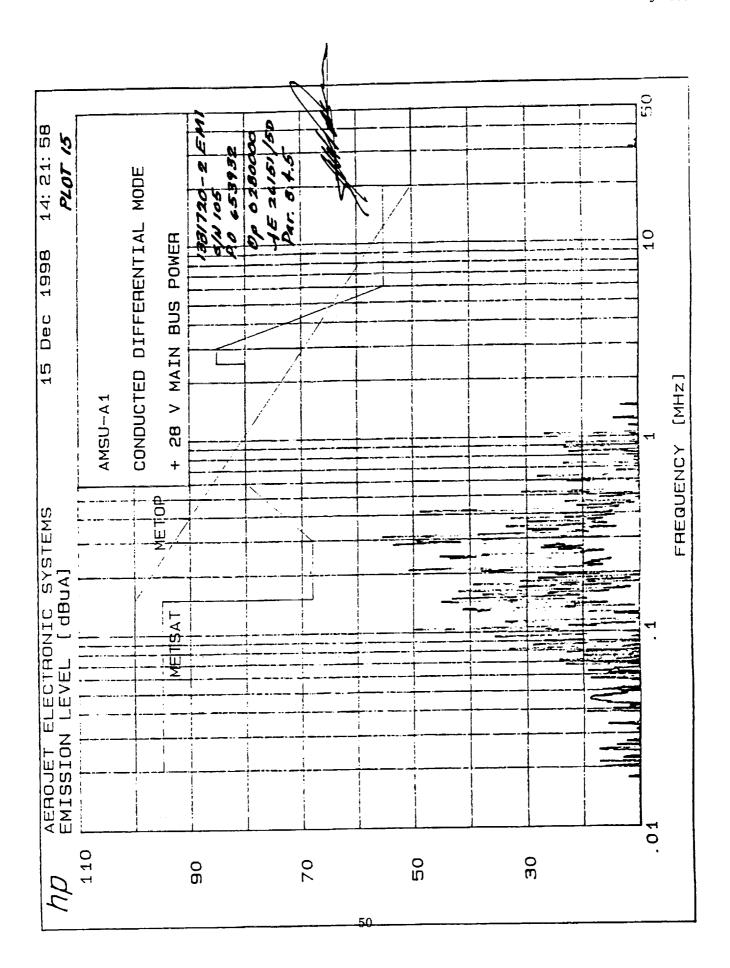


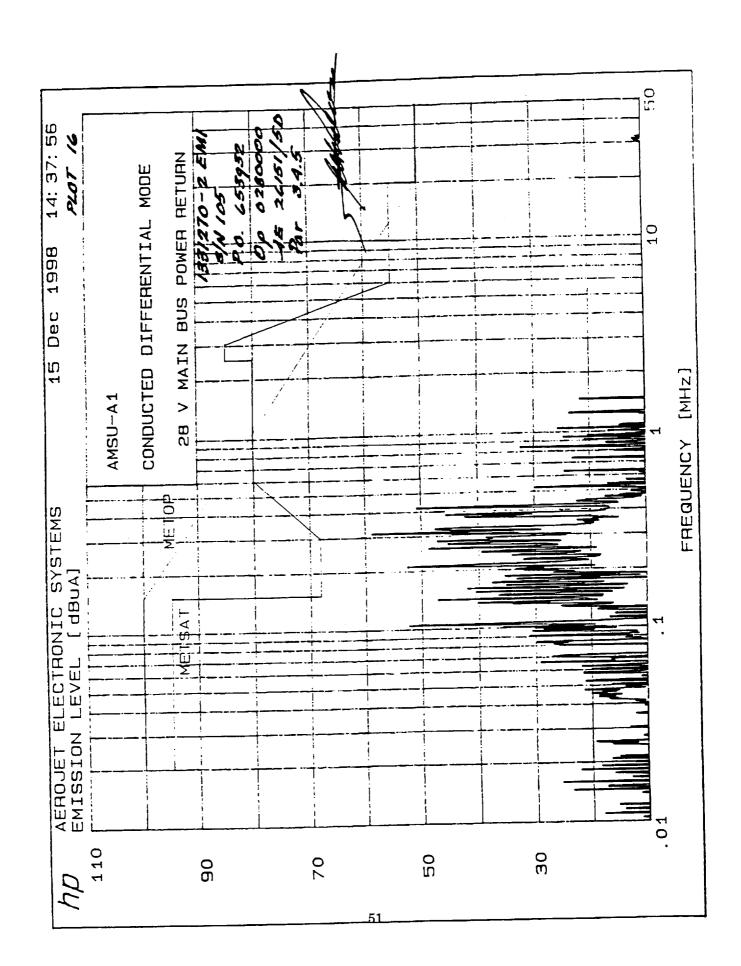


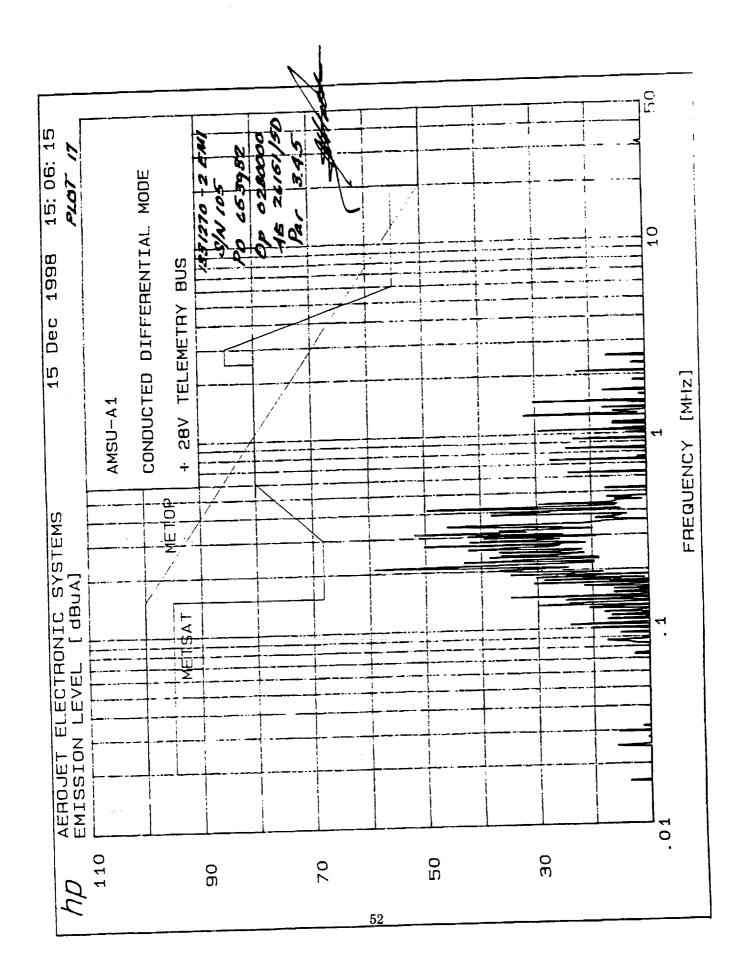


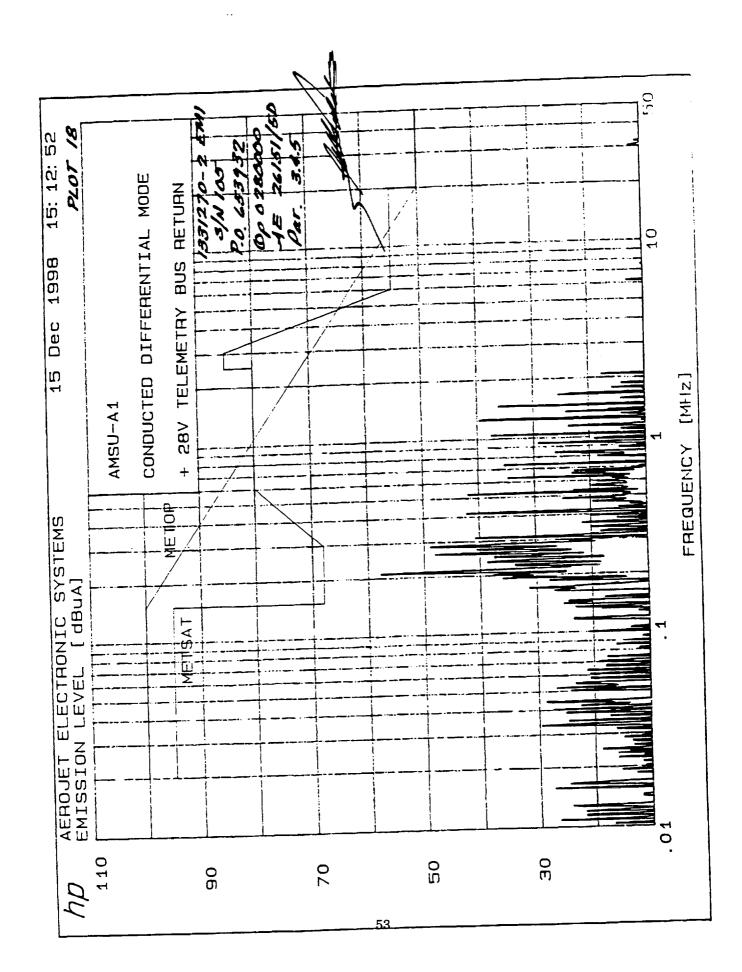


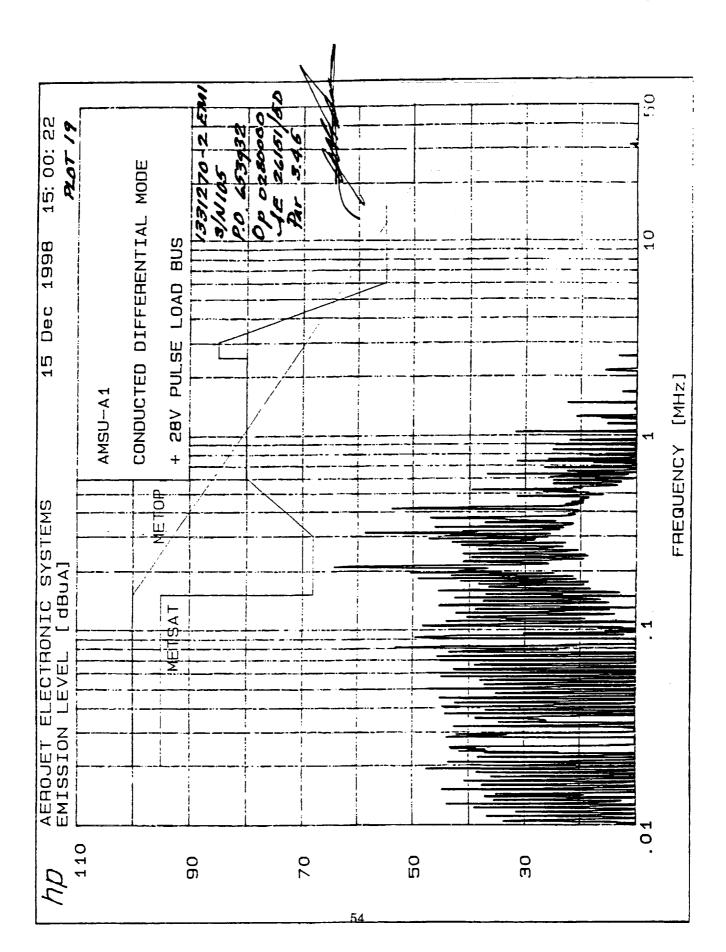


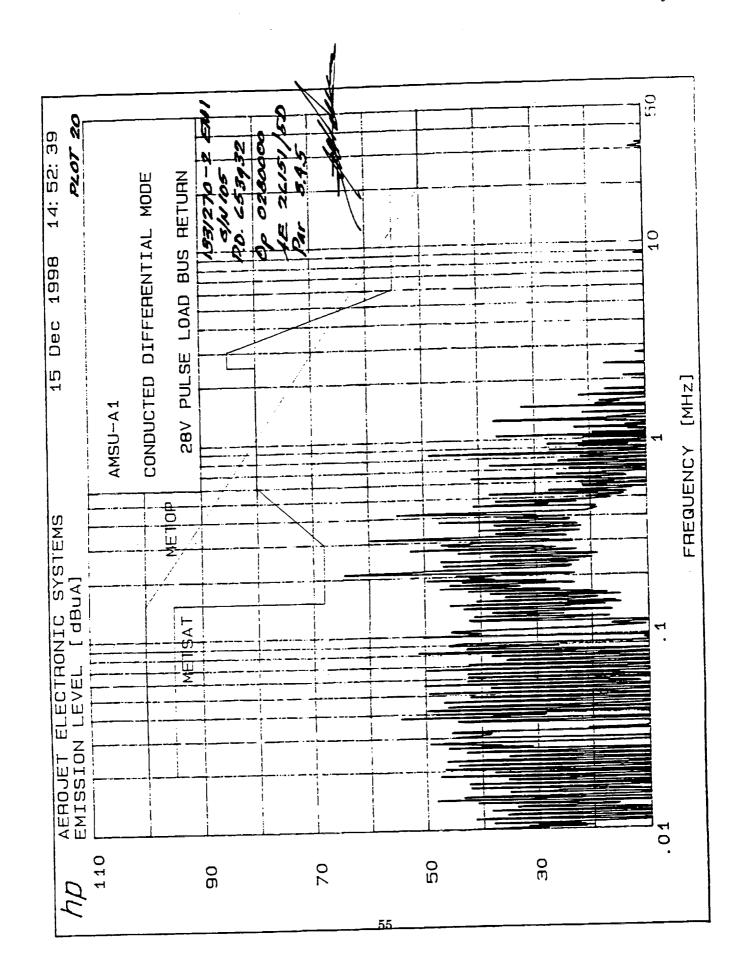


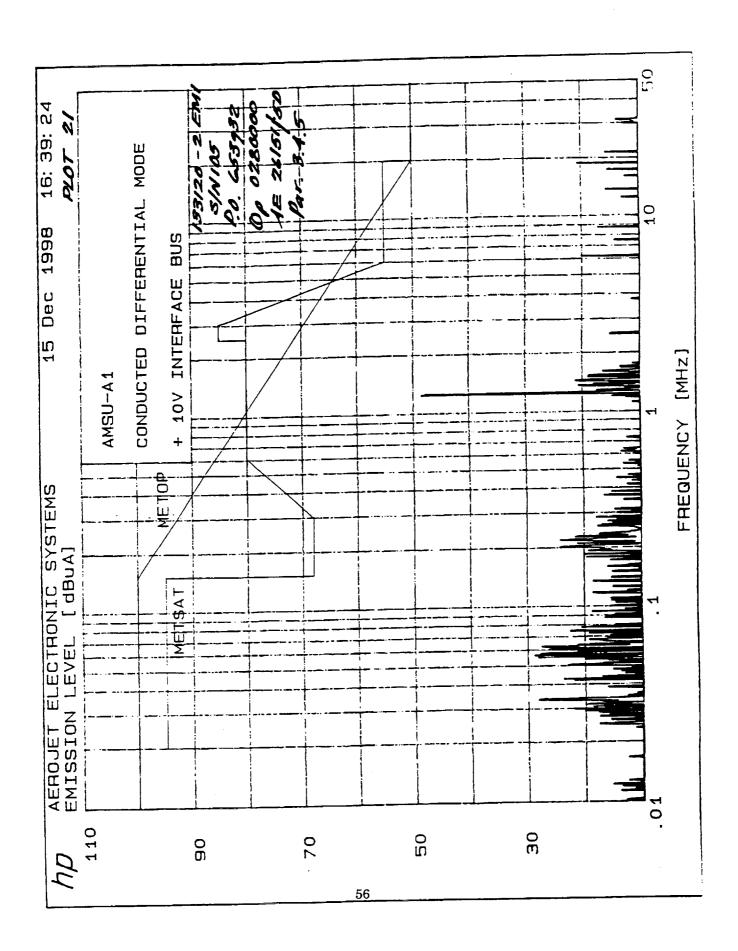


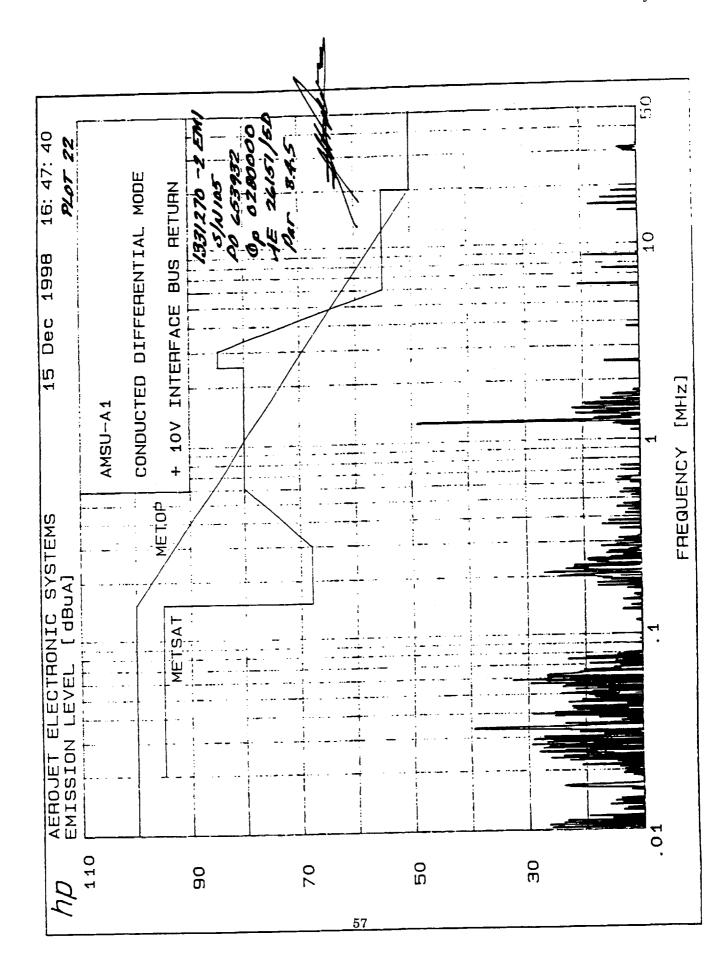


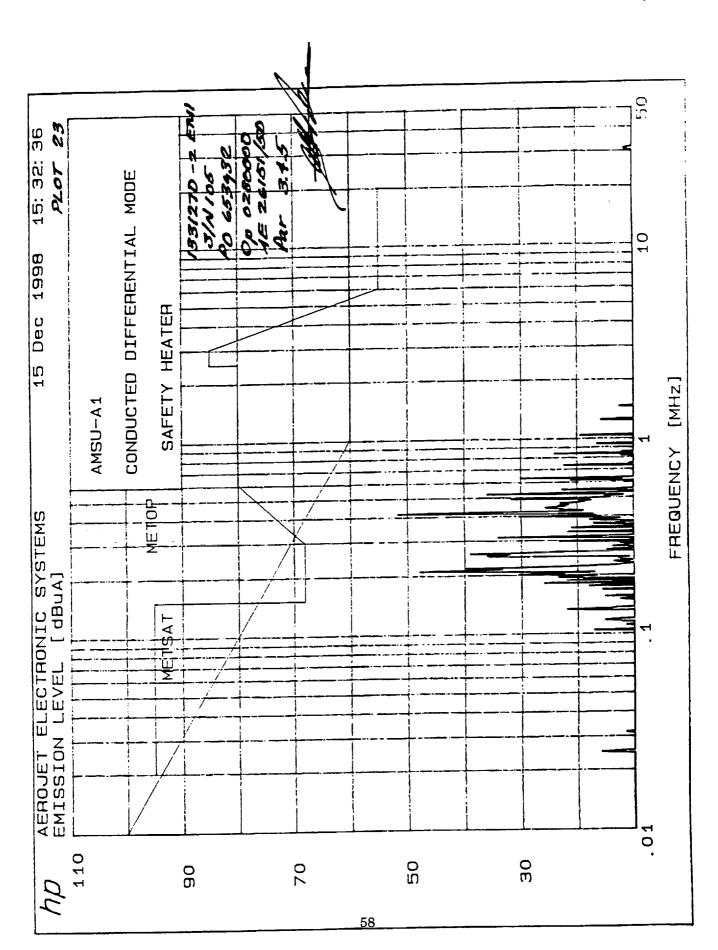


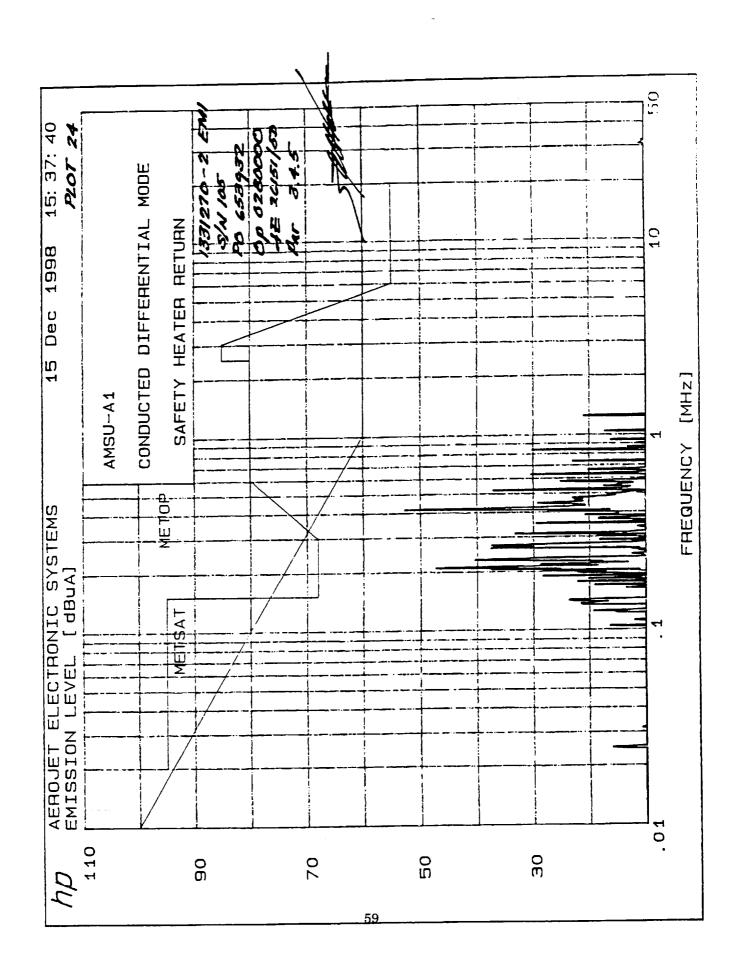


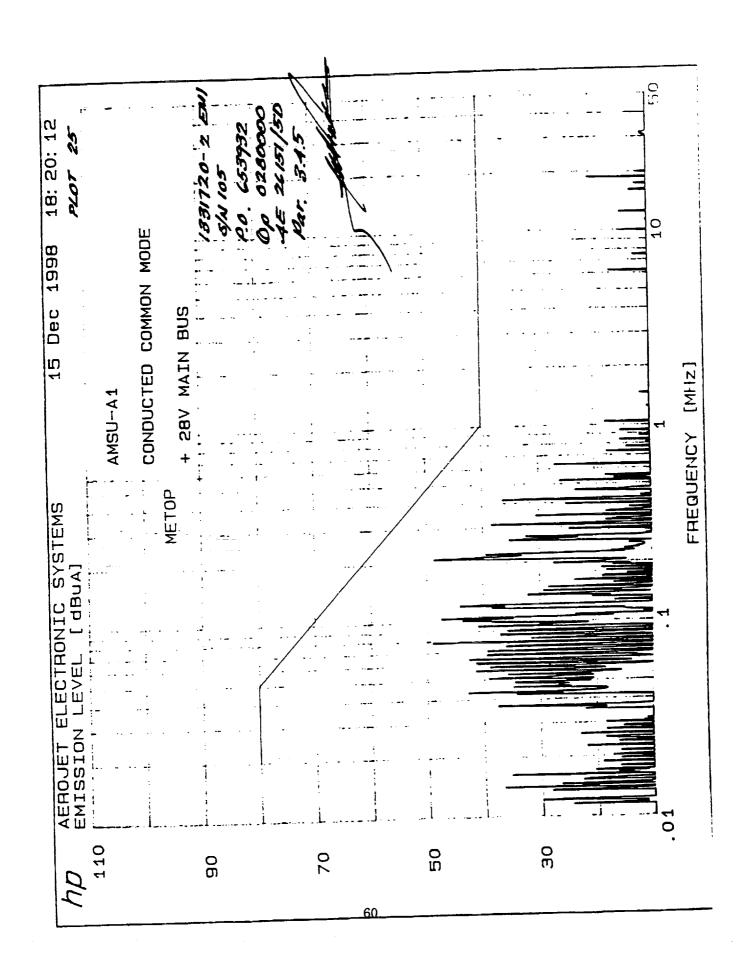


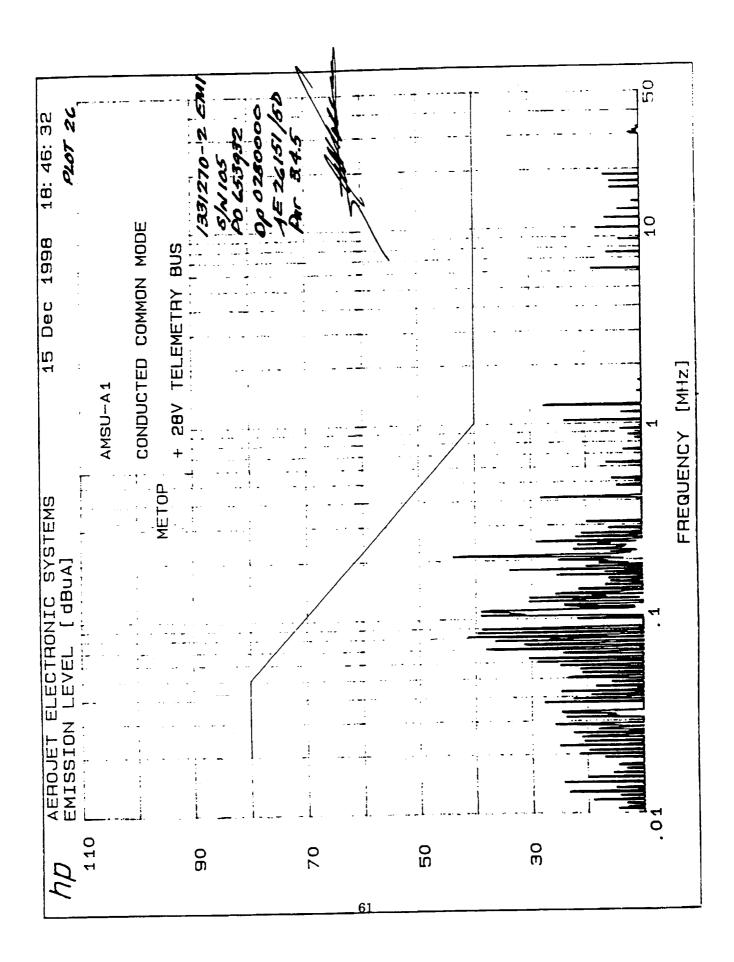


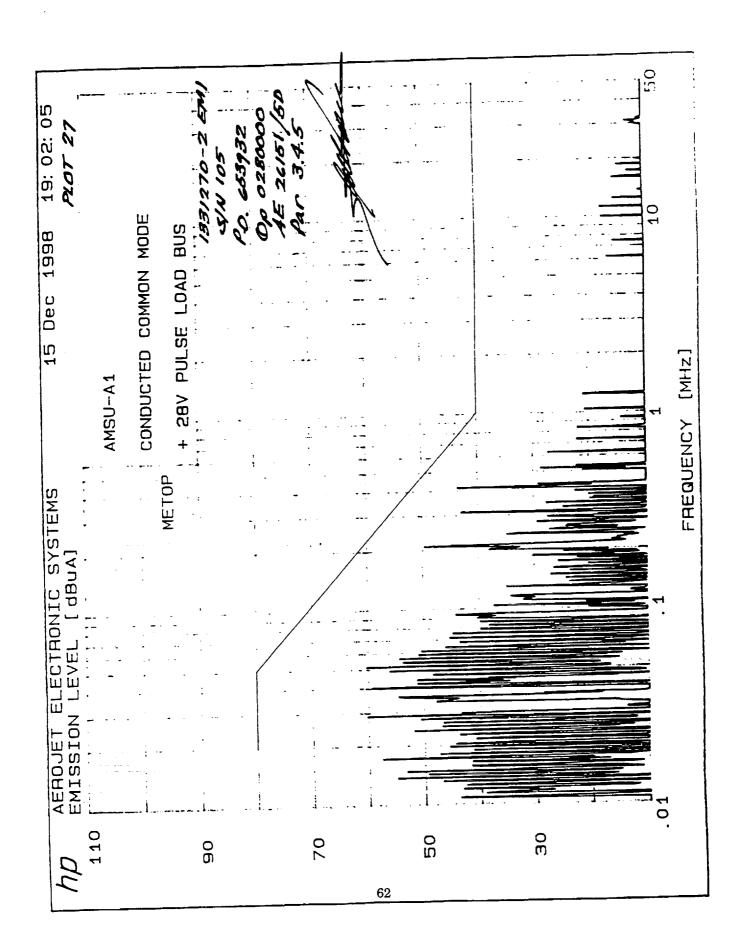


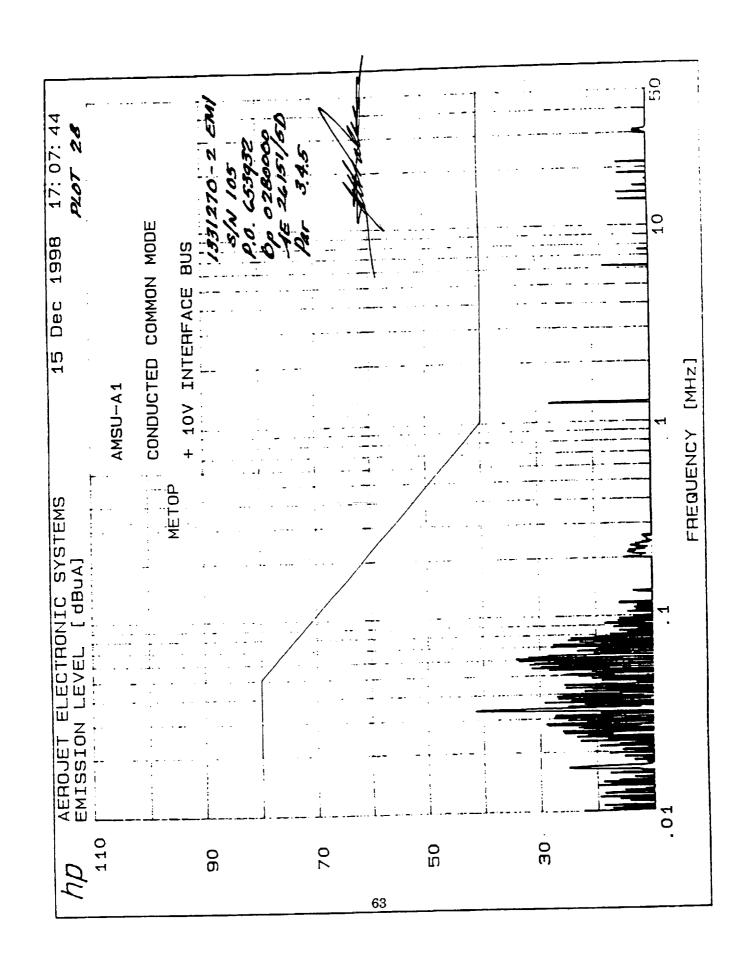












AE-26151/5D 22 Sep 98

## TEST DATA SHEET 2 (Sheet 1 of 3) 3.4.6: REQ2 Test

_	<del></del>		(30) 12-1	5-98			
	Test Setup Verified:K	Share Sign	ature	<u> </u>			
3.	4.6.3.1 Step 1: Test Equipmen	Manufacturer	Model/ Part No.	Aerojet Inventory No.	Calibration Date	Calibration Due Date	
	Spectnum Analyzen	HP	8566 B	R30680	8-13-98	8-13-99	
	\ <b>\</b>	HP	13447F-464	120232	1-14-98	1-14-99	
	Amplifian	HP	7475A	47417	CNR	N/A	,
	Active Manapole	EMC	330B	55363	10-22-98	10-22-99	
١	Biconnulcal	HP	11955A	C200224	1-16-98		
	1	HP	11956A	(200225		1-16-99	12 12/5
	Log Pariodic Active Monopole	EMC	3301B	R 300691	07-17-90	9 11-17-99	
١	ACINC						
							<u> </u>
1							
							11
							11
						<del> </del>	<b>┤</b> ┃
					<u> </u>	/:	
1	Note: Active More was sent to the 14 kHz 7 be comple	ropole Anten	na, EMC 3	3301 B, is	not operat	and broken	Sylva C
	was sent to	metrology	for replace	ment. Ih	is antenn frequency	range w	"//
	The 14 kHz 7	to I GHZ freg	the replace	ement .	s availa	ble. All	
	be comple	YEK MAN ARMAY				12/17/9	,6
							•
	1						

AE-20151 511 22 Sep 55

Note 1884 189

Plate

Photo

P615

Mds

Plots

16 to 200 Them 211

1904 191

192 ¢ 173

1944 195

MC & MT

198 É 197

## TEST DATA SHEET 2 (Sheet 2 of 3) 3.4.6: RE02 Test (Cont)

12/22/98 Test Setup Verified: Signature

400 to 500 MHz

2 to 18 GHz

1217 to 1227 MHz

1565 to 1614 MHz

2051.9 to 2055 MHz

5254.7 to 5255.3 MHz

5450 to 5825 MHz

21

21

21

21

21

21

21

Narrow

Narrow

Narrow

Narrow

Narrow

Narrow

Narrow

3.4.6.3.2: Emission Measurements Comments Emissions within limits? Required Band Antenna/Frequency Step Observations No Yes PLOTS 101, 10%, 6 See Figure 2 Narrow All except Hom 4 106 34 14 kHz to 1 GHz 102,104 PLOTS See Figure Broad All except Hom 6 105 14 kHz to 1 GHz Plo \$ 201 See Figure & Hom, RGA-180 Narrow 12 1 to 2 GHz Auts 113 £ 139 No narrow-Narrow Biconical, EMCO 3104 15 band freq. 121.5 MHz with Ampl > -150 dBm Alas 120\$ 146 No narrow-Narrow Log Conical, EMCO 3101 16 127 \$ 153 band freq. 243 MHz, 401.65 MHz, & 183 \$ 157 > -150 dBm 406.05 MHz with Ampl 126 \$ 187 No narrow-Horn, RGA-180 Narrow 19 band freq. 2010 to 2040 MHz with > -120 dBm Ampl Mots 162 to 185 No narrow-Narrow Biconical/Log Conical 21 59.458 to 751.944 MHz band freq. > -60 dBm

-107.1dBm

Figure 3

-111.8 dBm

-111.2 dBm

-126.7 dBm

-122.8 dBm

-80.7 dBm

V

~

~

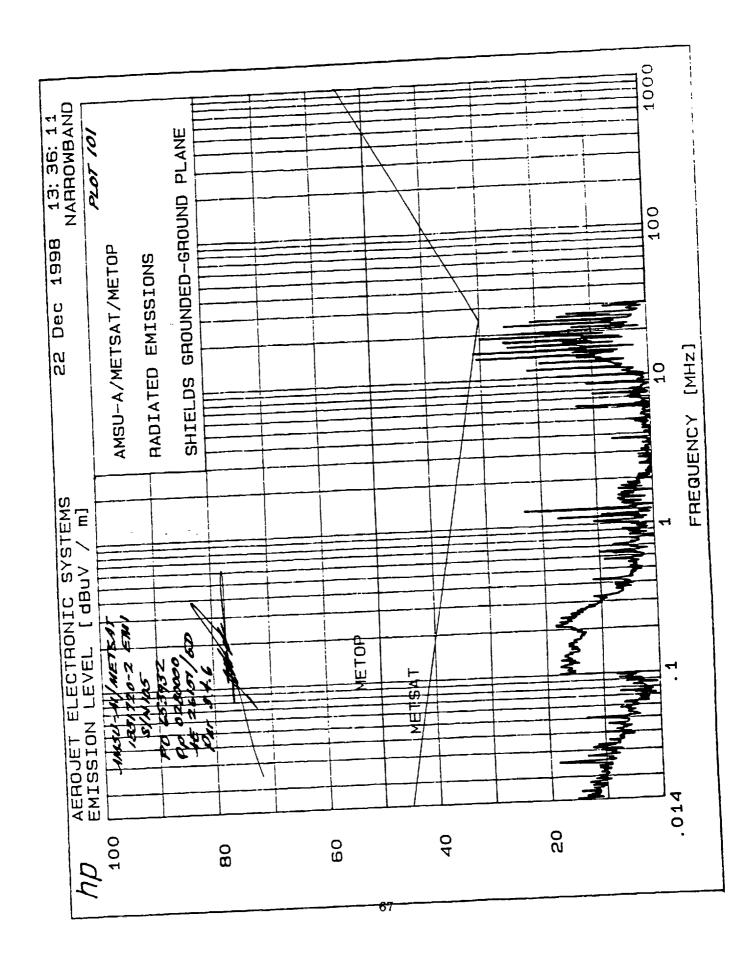
NOTE: Attach all backup data generated during the test (photos, printouts, plots, test logs, additional comments or observations, etc.) to this data sheet.

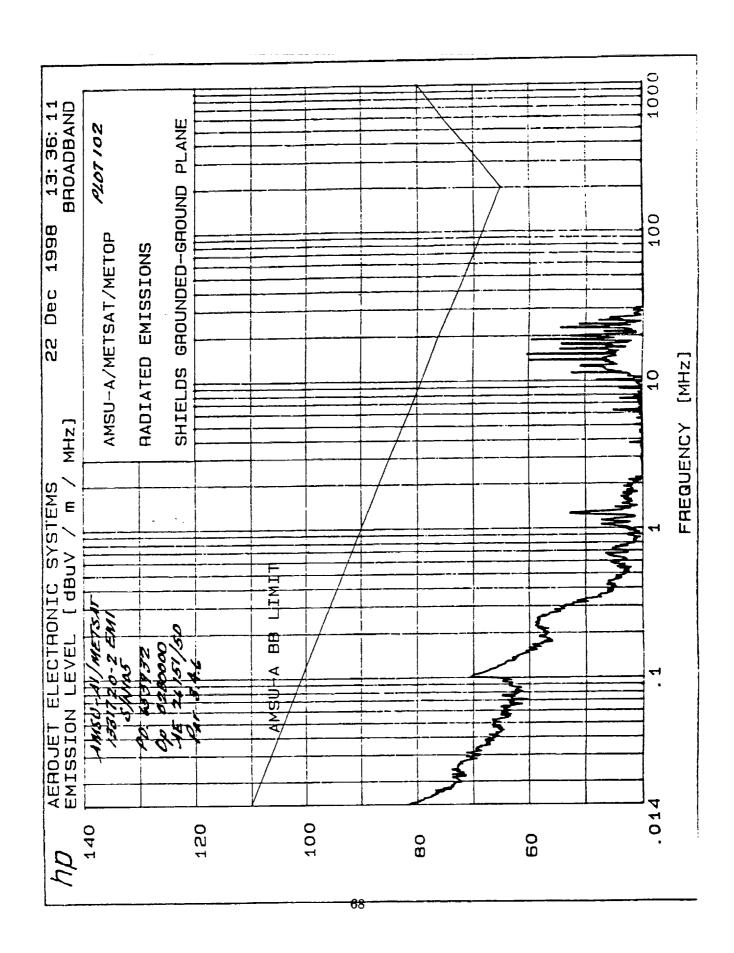


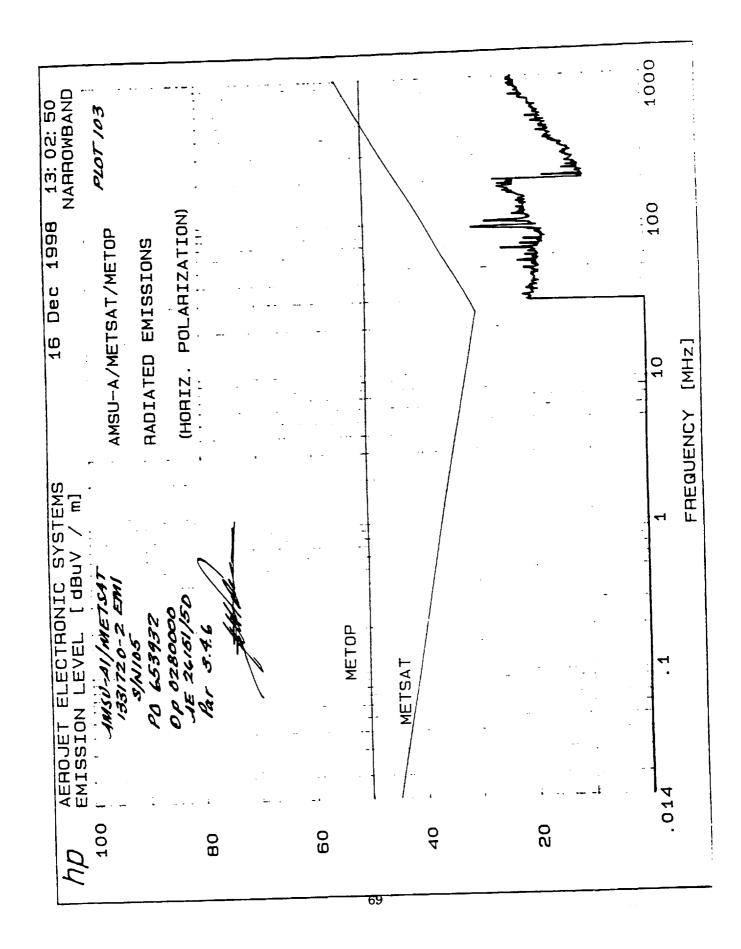
AE-26151/5D 22 Sep 98

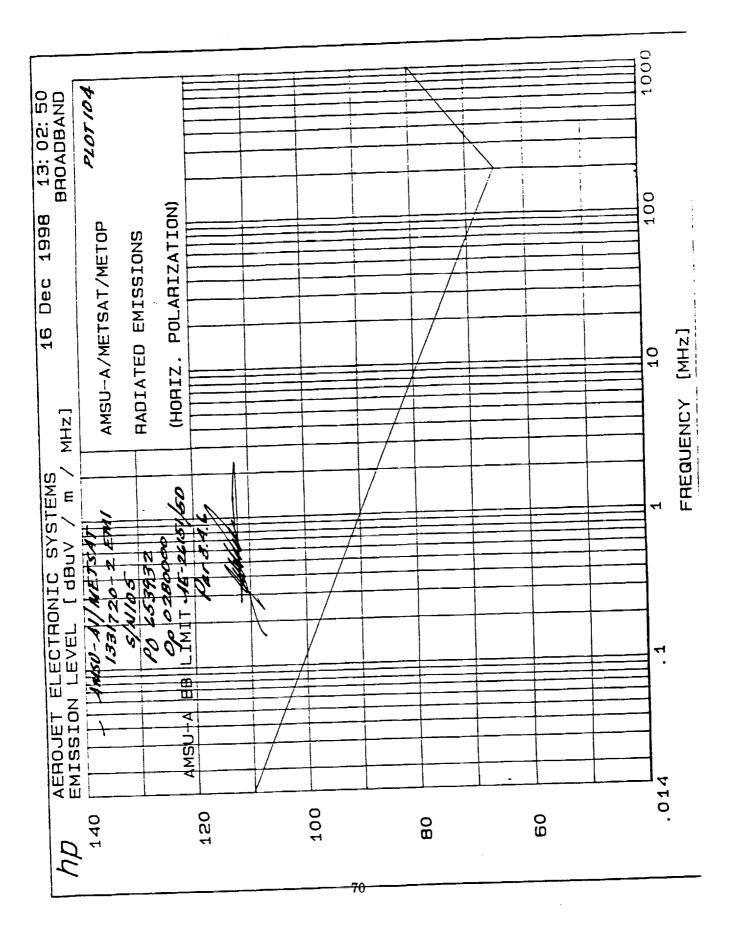
## TEST DATA SHEET 2 (Sheet 3 of 3) 3.4.6: RE02 Test (Cont)

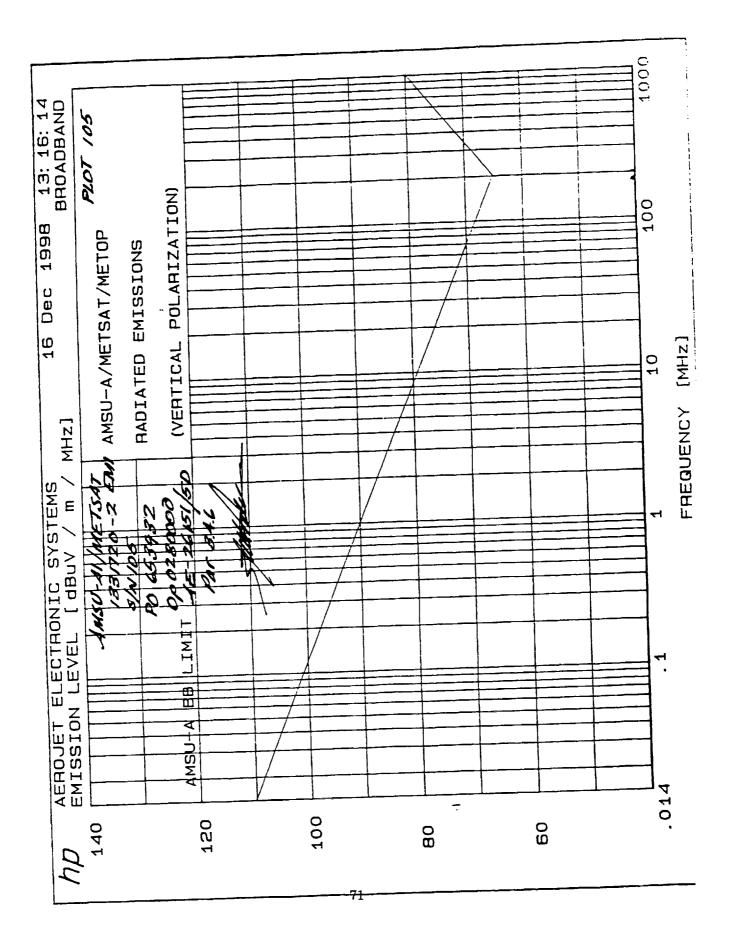
Test Se	etup Verified:	Senlur	12/22/GP and	)											
			Bigi lature												
3.4.6.3 Step	.2: Emission Measurement Antenna*/Frequency	s Band	Radiation	Emissions wi	thin limits?	Comments/ Observations									
Gicp	Range (MHz)		Limit (dBm)	Yes	No										
22	118.000 - 120.000	Narrow	-100 / Table IV	~		Plots #5 110 # 134									
22	120.000 -121.450	Narrow	-125 / Table IV	<b>/</b>		NI \$ 137									
22	121.450 - 121.485	Narrow	-145 / Table IV	V		//2¢#8									
22	121.515 - 121.550	Narrow	-145 / Table IV	V		1144 160									
22	121.550 - 123.000	Narrow	-125 / Table IV	<b>Y</b>		115¢ 141									
22	123.000 - 125.000	Narrow	-100 / Table IV	/		IK\$ 142									
23	236.000 - 240.000	Narrow	-100 / Table IV	V		1174115									
	23 240.000 - 242.925 Narrow -125 / Table IV  23 240.000 - 242.925 Narrow -145 / Table IV  24 24 24 24 24 24 24 24 24 24 24 24 24 2														
		Narrow	-145 / Table IV	V											
23	243.025 - 243.075	Narrow	-145 / Table IV	~		1214147									
23	243.075 - 246.000	Narrow	-125 / Table IV	•		1224148									
23	246.000 - 250.000	Narrow	-100 / Table IV	/		125 \$ 149									
23	385.100 - 401.100	Narrow	-100 / Table IV	/		124 \$ 154									
23	401.100 - 405.900	Narrow	-125 / Table IV	V		45\$151									
23	405.900 - 406.000	Narrow	-145 / Table IV	/		124 \$ 152									
23	406.1 00 - 406.200	Narrow	-145 / Table IV	/		1224194									
23	406.200 - 411.00	Narrow	-125 / Table IV	/		1274 455									
23	411.000 - 425.000	Narrow	-100 / Table IV	/		130 \$ 152									
23	396.000 - 401.500	Narrow	-125 / Table IV	/		181 \$ 157									
23	401.500 - 401.600	Narrow	-145 / Table IV	/		1324152									
23	401.700 - 401.800	Narrow	-145 / Table IV	/		134 \$ 160									
23	401.800 - 406.000	Narrow	-125 / Table IV	/		135 \$ 161									
•	All frequency ranges at polarization.			antenna in	both vertice										
Unit_	AMSU- AI / METS	<del>* /</del>			DEN	10/20 19/ 105)									
	I No	. 084		uality Control:	1	12-22-98									
Shop	Order <u>653932</u>	per <u>0280</u>		ustomer Repre	ssenialive										

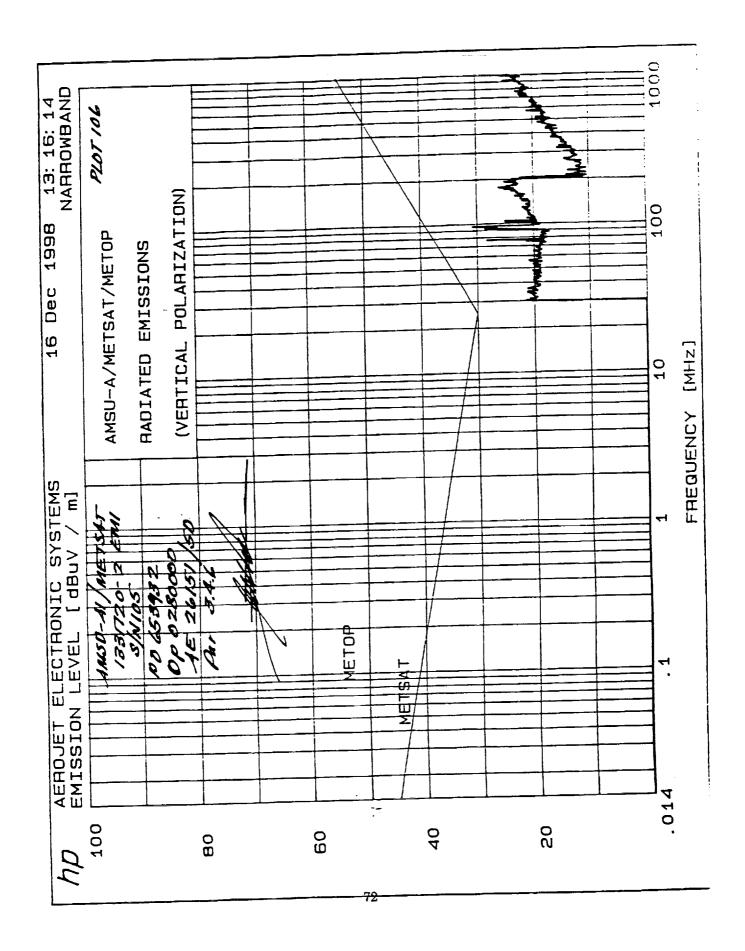












DIATED EMISSIONS IELDS GROUNDED-GROUND PLANE  AKS FOUND ABOVE 10dBuV / m  AKS FOUND ABOVE 10dBuV / m  AK\$ FREO (Hz) AMPL(dBuV / m)  16.0E+03 15 2 18.3E+03 18 4 27.7E+03 13 5 30.2E+03 11 6 31.6E+03 11 6 31.6E+03 12 7 33.1E+03 10 9 50.6E+03 10 9 50.6E+03 13 0 10.1E+04 18 1 12.5E+04 17 2 21.3E+04 18 1 12.5E+04 17 2 21.3E+05 10 9 87.9E+05 11 5 11.2E+05 17 6 12.6E+05 23 7 62.2E+05 10 9 87.9E+05 11 11.2E+06 22 11.3E+06 13 14.4E+06 13 15.0E+06 31 15.0E+06 31 16.2E+06 25 16.8E+06 25 17.6E+06 25 18.8E+06 13 19.9E+06 25 18.8E+06 13 19.9E+06 25 22.5E+06 25 23.7E+06 21 7 25.1E+06 14	ROUTT ELECTRONIC SYSTEMS 22	Dec 1998 13:36:11
AKS FOUND ABOVE 10dBuV / m		IMSU-AI METSAT
AK# FREQ (Hz) AMPL(dBuV / m)  1 16.0E+03 15 2 18.3E+03 13 25.3E+03 18 4 27.7E+03 11 5 30.2E+03 11 6 31.6E+03 12 7 33.1E+03 11 8 40.0E+03 10 9 50.6E+03 13 10.1E+04 18 11.2.5E+04 17 2 21.3E+04 18 3 42.2E+04 11 4 10.4E+05 11 5 11.1E+05 17 12.6E+05 23 7 52.2E+05 13 8 75.2E+05 10 9 87.9E+05 16 11 11.2E+06 22 11.3E+06 19 13.3E+06 31 5 14.4E+06 19 13.3E+06 31 5 14.4E+06 19 13.3E+06 31 5 14.4E+06 19 13.3E+06 31 7 15.4E+06 15 0 17.6E+06 25 118.8E+06 30 3 19.9E+06 25 118.8E+06 30 3 19.9E+06 25 4 21.2E+06 13 5 22.5E+06 25 6 23.7E+06 25 7 25.1E+06 16	IELDS GROUNDED-GROUND PLANE	1331720-2 EMI S/N 105
AK# FREQ (Hz) AMPL(dBuV / m)  1 16.0E+03 15 2 18.3E+03 13 25.3E+03 18 4 27.7E+03 11 5 30.2E+03 11 6 31.6E+03 12 7 33.1E+03 11 8 40.0E+03 10 9 50.6E+03 13 10.1E+04 18 11.2.5E+04 17 2 21.3E+04 18 3 42.2E+04 11 4 10.4E+05 11 5 11.1E+05 17 12.6E+05 23 7 52.2E+05 13 8 75.2E+05 10 9 87.9E+05 16 11 11.2E+06 22 11.3E+06 19 13.3E+06 31 5 14.4E+06 19 13.3E+06 31 5 14.4E+06 19 13.3E+06 31 5 14.4E+06 19 13.3E+06 31 7 15.4E+06 15 0 17.6E+06 25 118.8E+06 30 3 19.9E+06 25 118.8E+06 30 3 19.9E+06 25 4 21.2E+06 13 5 22.5E+06 25 6 23.7E+06 25 7 25.1E+06 16	AKS FOUND ABOVE 10dBuV / m	PO 653932
8 26.3E+V5 14	AK# FREQ (Hz) 15 13 13 13 14 15 16 .0E+03 13 13 11 13 13 14 15 15 .0E+05 15 .2E+06 15 .4E+06 16 .2E+06 17 .8E+06 17	PO 65.3932  Op 0280000  AE 26151/50  PAR 8.4.6  J

011															_
	MHz	dBm		L				Apply to tapping	WETSAT EWI	200//50					MHz
(3	9.000	15.87		SAMPLE				WHAT A	1270-2	02800	3.4.6				0.000 0.00
RE 54	RQ 11	1	STEMS					AND MANAGE	188127 188127 8/8	283	Q.	5			STOP 120.000 st 10.00 m
(5.41	MKR #1 FRQ 119.000 MHz		IC SY	NCOR				Asset Laft Lafter							S
REO	MKR	-80.00	ELECTRONIC SYSTEMS	0.00 U	<del></del>	-100.0		T.D. B	-120.0	-130.0	-140.0	-150.0	-160.0	-170.0	
1998		8				-		- The spirit	1	1		ī	1	[	kHz
DEC 16,			AEROJET	-			-	was the first the section of the sec							MHz UB 300 kHz
:12 D	dBm	<b></b>	ηIV			HZ	E	March Harris							118.000 kHz
(45) 07:52:12	80.00	PDN	18 dB/		FB R	M DOD	, 65 dB	Larythynadorochadr	WG B						
	H.	*ATTE	10.00		MARKER	119.	-116	1 Throughout	VIDAVG						START *RB 300
					(	(8m									

₽

REDZ (SARR & SARP) PLOT 112 MKR #1 FRO 121.471 61 MH,	47.17 dBm	SAMPLE	7 CM1	09/1/60						15 00 MHz
(SARR & SA)	-80.00 -14 FLECTRONIC SYSTEMS	UNCOR - AIL	8/N 105 00 6539	16 2615				A THE PART OF THE		STOP 121.485 00 ST 116.7
1998	HEROVET ELECTRON	-90.00	-100.0	-110.0	-120.0	-130.0	-140.0	-150 B	-170.0	BB 3B.B Hz
:47 DEC 16,	n]		61 MHz dBm							121.450 00 MF 1 Hz VB 30
(4) 08:06:47 RL -80.00 dB	*ATTEN Ø dB 10.00 dB/0]	MARKER	121.471 6 -147,17 d	<b>←</b>	VIDAVG 5			A CONTRACTOR OF THE PERSON OF		START 12 *RB 30.0 H

W. 07 113		dBm		النا											17.7	NATIONAL PROPERTY.				MHz	sec
	<b>E</b> /	-152.48		SAMPL		50	58932	95/151	3.4.6	NAME OF THE PARTY	\				- 1 - 1	With Migrat Plan while he had in				15 00	100.0
REOZ (SARR & SARP)	FRQ 121		SYSTER	COR	(38/2	INIS	70.65	15 20	Za7		\				M. L. L. L.	المدما المسلم المسلال				STOP 121.5	S
	MKR #1	-80.00	<b>ECTRONI</b> (	-90.00 UNCOR		-100.0		110.0		-120.0		-130.0	0.0h.l-		- 150 . L	بداء المائد كالأحماد المائد المائد	160.0	-170.0		တ	
6, 1998		1	AEROJET EL	1		1		1		I		1	ı		- Mar Had and All		1	1		MHz	30.0 Hz
DEC 16,				-	-	7						<del></del>			رغيم يواروان ا	فالرخاف الألطان	<del></del>			D :	08 3
(4) 08:26:56	0.00 dBm	0 dB	48/010	 1			, 46 dBm								يخ لما كالمطبيخ المناظرة والمراجع المارة	All billilly at the		·	- 1		Mz Hz
	RL -81	*ATTEN	10.00		MHKKER	121.5	-155,	<u></u>		VIDAVG					Total March Jam.	a Although and			- + C C + C	SHR	*RB 30.0
														150	dem						

PLOT 114		_		T							·			_				
107d	MH	dBm		Ш	ZZ			0							3			MHZ
2	MKR #1 FRQ 121.529 70 MHz	1.08		SAMP	MET-2E		3932	121/12	3.4.6	No.	`				The Colombia Colombia Colombia Colombia			121.550 00 ST 116.7
SAR	1.52	1	<u>σ</u>		1/4/0/2/		X-44	7	R.	7	_				3			1.5.1 ST 1
2	12		STE		-05W	3/11/2	00	3/	d'a									1
SAE	FRQ		လ ပ	COR	1												-	ST0P
2	₩		Z	5			-		-						畫	<u> </u> 		- 05
REOZ (SARR & SARP)	1KB	-80.00	CTR(	-90.00 UNCOR		-100.0		-110.0		-120.0		-130.0	140.0			60.0	-170.0	
		ф '		<u>-</u>		1		<b>T</b> -		-		1	1	-	- T - T - T - T - T - T - T - T - T - T			7
1998																		MH2 30.0 Hz
DEC 16,			<b>AEROJE</b> 1													<b>S</b>		MHz 30.
EC	,		Œ										_		-			00 08 08
	dBm		>			MHZ									W.			515
E ::	<u>d</u>	畀				70	dB m							ļ	3		_	121. Hz
08:36:33	-80.00	0	1 dB/01(		Œ	29	. 88			9					An Millian			0
<u> </u>	)   	F	10.00		MARKER		51			UIDAVG					-3			ART 30
		* A T	10		MA	12	-151	Ţ		I۸		<u></u>						START *RB 30
														5 %				-

9 <i>PLOT 115</i> 882 MH,	. 90 dBm	SAMPLE	-2 531	0000	4		AND THE PARTY OF T				350 sec
REOZ (SARR & SARP) PLOJ MKR #1 FRO 122.882 MH,	-80.00 ELECTRONIC SYSTEMS	1 2	188/1	. B 15 26.51/ Par 3.4.6	9.	<b>B</b> .	THE STATE OF THE PARTY OF THE P	8	8	0	STOP 123.000 ST 4.350
DEC 16, 1998 &	-BB.BB AEROJET ELECTRO	.00-	-100.0	-110.0	-120.	-130.0	AND THE WAR STATE OF THE PROPERTY OF THE PROPE	-150.0	-160.8	-170.0	MHz VB 1.00 kHz
(4) 08:47:31 RL -80.00 dBm	*ATTEN Ø dB 10.00 dB/DIV	MARKER	122.882 MHz -125.90 dBm		VIDAVG B		HAT THE PROPERTY OF THE PROPERTY OF THE PARTY OF THE PART				START 121.550 *RB 1.00 kHz
					125					·····	

REOZ (SARR & SARP) PLOT 116 MKR #1 FRQ 124.423 MHz	-11/.34 dBm TEMS	SAMPLE		المادية المارية والمتاعدة في المارية والمارية المارية والمارية وال	-120.0	4MSU-41/METSAT 1331720-2 EMI S/U 105	0 653932 9 0280000 45 26151 150	Dar 3.9.6			STOP 125.000 MHz ST 10.00 msec
DEC 16, 1998	-80.00 -1 HEROJET ELECTRONIC SYSTEMS	1	-100.0	-1100	1	-130.0	-140.0	-150.0	-160.0	-170.0	AD MHz UB 300 kHz
(4) 08:51:35 RL -80.00 dBm	*ATTEN B dB 18 88 dB/DIV		48m 124.423 MHz -117 34 dBm	A to the Manches Manches Services	VIDAVG B						START 123.00 *RB 300 kHz

111																							
_	dBm		<u>.</u>								TSAT	1111			~~~		1	N				MHz msec	
4RP) 37.310	113.31	- 1	SAMPL					ときまままする		,	C3W / 11	0-2	105	80000	24151/5	3.4.6		No.	(			10.000 0.00	
REO2 (SARE & SARE) PLOT MKR #1 FRO 237.310 MHz	L	YSILMS						するとうない			4MSU-	133127	00 5/1/		12 2 XX				1			STOP 240.000 ST 10.00	
(s.x.)		ر د	NC OR								•											S	
REO2 MKR	- 80.00- 	C I KUN.	0 00 0	,	100.0		110.0	The state of the s	-120.0		-130.0		4 L D D	٦d . لا		-150.0		-160.8		-170.0			
1998	8- 1	1 1 1 1	<u> </u>		- 1		-	ではると	1		1	<del></del>	1 1	<b>±</b>		<u>s-i</u>		-16		77-		kHz	
DEC 16,	0010	HERUDI					<b>\$</b>															MHz VB 300 kHz	
=		>																			j		
1:55:3 1.00 d	0 dB	10/90				11 dBm														·		236.000 kHz	
(4) 09:55:37 RL -80.00 d8n	*ATTEN	10.00		¥١	237. A10	-113   3		The state of the s	VIDAWG													START 236 *RB 300 kHz	
				- 100	dBm			- <del></del>						-	<u></u>		· · · ·	<del> ,</del>			<b>`</b>	*	

8//								7												
		dBm		L	/WC			0		all a									MHz	msec
7 (43	D.852	-130.39		SAMA	10-2 B	105	653932	26151/5	3.46	7		STATE OF THE PARTY							2.925	7.76
#SAR	RQ 24	1	STEMS	weer!	133127	3/2	PO 653932	10 24	•		\ .	THE STATE OF THE S							0P 24	ST 87.76 m
REOZ (SARR & SARP)	MKR #1 FRQ 240.852 MHz		IC SY	-90.00 UNCOR	<del>- 1</del>						•	A STATE OF THE PARTY OF THE PAR							S	
RE02	MKF	-80.00	CTRON	0.00		-100.0		-110 n	) • •	120.0		A STATE OF	-140.0	200	7 7 7 7 7 1 - 1 1 1 1 1 1 1 1 1 1 1 1 1	-160.0	0	-1100		
1998		-		<u>, , , , , , , , , , , , , , , , , , , </u>		-		1	<u> </u>	_	:	The Water	1	<b>-</b>	<u></u> 1 I		-	<del></del>		3 kHz
DEC 16,			<b>REROVET</b>	-	-						•	and the second of the second second second contract of the second							MHz	VB 10.0 kHz
	dBm		>								3	Algebraphishe							-	
64:65:60 ( <i>(4)</i> )	0.00 c	8 dB	dB/DIU		<u> </u>	E	39 dBm			G B		To be designed to						~	240.	*RB 10.0 kHz
	RI - B	HTTEN	10.00		MARKE	240.B	-130		ı	VIDAVG		State Live							START	*RB 10
				I		L		<b>.</b>					L	<b></b>					- <b></b>	

P207 119 B MH2	dBm	1 kg						mutally six			MHz
<b>6</b> 88 8	3.20	SAMPL	32	02/12	The state of the s						5.00
<i>saee</i> 2.926	1 SW	18-1	6531	26/5/							242:975 ST 15.
245 246	YSTE	AMSU-	13612 8/N 1 PO 65	1 da				The state of the s			54
CSAR FRQ	10°S	NCOR						To the second se			STOP
REOZ (SARR 454RP) P. MKR #1 FRQ 242.926 88	-80.00	-90.00 UNCOR	100.0	0.0	120.0	0.0	-140.0	The filter with the first	-150.0	-170.0	
	-80 -1EC	- 90	-10	-110.0	7	-130.0	1-1-1	1	1-15	-12	
1998	Į.	1							Adeller 1440 Miller Park		H <sub>2</sub>
DEC 16,	HEROJET							Who will have been a second			MHz 100
DEC	<b>U</b>							-			00 00 00 00
23 dBm	۱۵		MHz					through the			. 925
83:60	3 dB		3 88 7 4	3	B			the friends of the property			242 Hz
10: -80.	EN (		100 E	1	AV6	-					RT 100
(4) 10:03:23 RL -80.00 dBm	*ATTI	M	242,926 -148 28		VIDAVG			A A A			START *RB 100
							74.	8m			-

PLOT 120		SAMPLE	32	99/1	Market			Shade Hardy Barthard		DD MHz 6.7 sec
A REOZ (SARR & SARD) MKR #1 FRO 242.993	IC SYSTEMS	'     '	S/N 105 PO 653932	4£ 26151/ Par 3.46				AND THE PARTY OF T		STOP 243.025 00 ST 166.7
1996	=	(	-100.0	-118.8	-120.0	-130.0	-140.0	WIND THE THE PARTY OF THE PARTY	-170.0	ZH B
14 DEC 16, dBm	U REROVET		MHz					The state of the s		00 0 0 8
:16: .00	*ATTEN Ø dB 10.00 dB/DIV	MARKER	42.993 31 151 24 dBm	<del></del> 1	VIDAVG 4			THE WARMEN AND THE WARMEN TO SEE THE SECOND		*RB 30.0 Hz
	*	<i></i>		~ 1			150	dem		*

101	ì					÷											
7079		dBm		لِيا	TAT IMI												MHZ <sub>tt</sub>
	17 13	47.60		SAMPI	VAEL 2-2	53932	280000	25/15 7.4.6									5 00
REOZ (SARR & SARP)	MKR #1 FRQ 243.037 13 MHz	H -	TEMS		135/27C	31	0	18 2616) 21 3.4.		-				British was a grant to the standard to the sta			243.075.00 ST 15.00
SARR	.RQ 2		\$ 2	,0R		180	0	10					1	The sales			STOP 2
9	<u></u>		NIC	ONO										E E			S
REO	MKR #	-80.00	ELECTRONIC SYSTEMS	10.00		-100.0		-110.0	-120.0		-130.0	-1 4B B		The second	-160.0	-170.0	
1998		l	_	1		1		ı			1	1	1	The second		I	Hz
DEC 16,			AEROJET	-	٠.								+	A PRINCIPLE			MHz 100
DEC			Н					,					1	-		-	
29	dBm	~	) I (			MHz	E						<	WHAT THE			. 025
(A) 10:24:29	-80.00	8P 0	J/8P			37 13			G B					ALL THE WAY			243. Ø Hz
	RL -8	HTTEN	10.00		MARKER	243.037	1/17-	<del></del>	VIDAVG					With the standard the sense of			START *RB 100
	1	<u>ж</u>											- 145	48m			*

122			<u>-</u>	1		ſ				· ·		<del></del>				
or i	MHZ	dBm		LE XX	IM!						1					MHz
d	945	.29,49 dBm		SAMPI	2-2	3932	0000	51/5	1		and stop deligi					STOP 246.000 ST 87.76 m
4RP)	2 무급	, LJ	EM3	44150		S/N 125	p 0280000	JE 26151/ Par 3.46			the day					2 2 4 E
B	FR(		<u> </u>	. 7	13	30	0	26.			1					101
SARE	¥ #1		NIC S	UNCOR							1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					S
1998 REOZ (SARR FSARP) PLOT,	五	-80.00	CTRO	-90.00 UNCOR		-100.0		-118.8	-120.0		できたができるとうないますがあるというというできませんというできないというできないからいっているというできないというできないというできないというというというというというというというというというというという	-140.0	-150.0	-160.0	-178.8	
98,		<b>a</b>	H	Φ.	•	I		1	-1		-		<del>5-1</del>	1	1	. Hz
				•												
DEC 16,			<b>AERO</b> VET	-							THE REPORT OF THE PERSON NAMED IN COLUMN TO					MHz VB 10.0 kHz
DE C				 					+-	~	=	<del> </del>	_			
60	dBm		$\bigcap$			2	E									3.075 1z
10:28:09	. BB	a de	4B/DIU			!			8		AND		erementarion Manual			243 8 kt
10	-80	Z	20	!	W W	<del>1</del> 6	<del>-</del>		904							10.
	RL -80.00 d	*ATT	10.		MARI	243,945	11.		UIDAVG		had the had been a few to the state of the s					*RB 10.0 kHz
			-						701	(8m)						- <del>-</del>

RE02 (SARR \$ SARP) PL67 123	70 MHz	ol dBm		1PLE			からはないないないないで		MEISAT S FINI			150	1						MHz msec
	刊.67	105.	<u>ur</u>	SAMP	· · · · · ·		home papers		13	7050	653932	26/5/	3.4.6						58.80 18.80
45A	- RQ 2		STEM				الإيلام المقدار المهاوي والمراجد والمواجد والمراجد والمواجد والموا		14.02ML	5/1 105		200	Par	1	.A/				STOP 250.000 ST 10.00 m
(SARE	# 1		IC S.	INCOR			The Bank	-	   										S
RE02	MXH	-80.08	ELECTRONIC SYSTEMS	3.00 L		-100.0	Tarak Alaman	-110.0	-120.0		-130.0		140.0		-150.0	-1 EB B		-170.0	1
1998		1	H	!		-11	المواط الواحدو والمدارة والمراسي كالمحاص وكالموال مراد المحاولة المراد والمراد				-		-		-1	1	<u>.                                    </u>		MHz
			<b>AEROVET</b>	-	· .		THE STATE OF												3.00 MHz
DEC 16,			# #		<del></del>		Total Property							1					MHz VB
EH:	dBm	<u>8</u>	'DIV			1Hz													16.000 1Hz
10:32:	80.0E	N 0	d dB/		CC LJ	670 M	PENALTHE		NG B										7 2°.
	RI -80.00 c	* ATTE	10.D		MARKER	249,	大三年の日本の日本の日本日本日本	<b>~</b> -1	VIDAVG										*RB 3.00 MHz
		_ <del>-^</del>		<b>.</b>	,	48m			<del></del>		<b></b>		<b></b>	<b>-</b>		<del></del>		+	

Ni															
RE02 (SARR & SARP) PLOT 124	MHz	dBm		L		-100 a	White the sale		WETSAT	200					MHz
P/170 (a	394.1E	.05.20		SAMPL			brond flematory.		41 /WE) 70-2	653932 0280000	3.4.6	· m			101.10 10.00
\$ 51E	FRQ	1	ELECTRONIC SYSTEMS				and the stable		4N50-1	00 65 15 2	Par			40 Marie 15 L. 1971. L. 1971. L. 1981.	STOP 401.10 MHz ST 10.00 msec
(SARR	KR #1		NIC S	UNCOR			MARINAMAN								
	Σ	-80.00	ECTRO	30.0E		1 8 B A B	halthoughland	-110.0	-120.0	-130.8	140.0	-150.0	-160.0	-170.0	
1998		1	ET EU	1	:	ī	*	1	1		,	1		1	IB MHz
DEC 16,			AERO JET	-			الميالات الإيلاليم الرياسات								Hz VB 3.00
NE DE	d B m		ΛI										, ,		. 10 M
0:40:E	0.00	0 qB	dB/D	Property and destinating the Art	<u>с</u>	6 MHz	PANAGE HARIEN PARTEMENTAL		B 9						385. 00 MHz
[65] 10:40:05	RL -8	+ ATTEN	10.00		MARKE	39H.1	F-DEBEN	<b>~</b> -1	VIDAVG						*RB 3.00
	ı	<u> </u>		ī	9	dBm	<b>T</b>		<u> </u>	<b></b>	<u> </u>	<u> </u>	<u> </u>	.1	<b>.</b>

RP) PLOT 125	5.642 MHz	18.09 d8m		SAMBLE	10-2 EM/	5	0000	4.6	Halle	Same	•	the basis and services					5.900 MHz 14.0 msec
REOZ (SARR & SARP) PLOT	#1 FRQ 40	-	C SYSTEMS	COR	13312	8/11/8	00028	AE 26				Washington and State of the Sta					STOP 405.900 ST 144.0 m
1998 RE02	MKR	-80.00	E E	-98. BB UNCOR		-100.0		-110.0		-120.0	-	AND THE PROPERTY OF THE PROPER	-140.8	-150.8	-160.0	-170.0	B kHz
DEC 16,			<b>HEROJET</b>	-	٠.							A SHAP WAS A SHAP					MHz VB 10.0 kHz
] 10:43:52	RI -80.00 dBm	TEN 0 dB	. Big dB/DIV		RXER	405.642 MHz				VIDAVG B		THE WAY THE WAY THE PARTY AND					START 401.100 RB 10.0 kHz
	一	H #	10	And the state of t	E E	8 h		<b>₹</b> -1			dBm	5					S * RB

912 0 MHz	47.00 dBm	SAMPLE	3932	26151/50				Chryse Verinitalist Lossies			888 8 MHz 38.88 sec
FRO 405.	C SYSTEMS	COR 1460-41	S/N 105 Po 653 Op 028	16 26.				And Here by the state of the state of			STOP 406.000 B ST 30.00
1998 <i>e£o2 (s</i> MKR #1	- BB. BB - 147. BB dBm FLECTRONIC SYSTEMS	-90.00 UN	-100.0	-110.0	-120.0	-130.0	-140.0	White William Andread Committee Comm	-160.0	-170.0	Hz
DEC 16,	AEBOJET							A MANAGEMENT AND THE			B B HHZ UB 100 H
10:51:10 80.00 d8m	*ATTEN Ø dB 10.00 dB/UIV	E C	912 0 MHz		B 90			Although the state of the state			405.91 Hz
R.	*ATTE 10.0	MARK	405.912 -147,00	<b>~</b> I	VIDAVG		45	18m Harthin			*RB 100

PLOT 127 H,	7 E						_				3			C 12
Σ	· E	SAMPLE	MEISBT -2 EMI	932	80000	151/50	3.4.6				A THE WASHINGTON TO THE PARTY WASHINGTON THE PARTY OF THE			00 0 MHz
<b>REOZ</b> (SARR # SARP) MKR #1 FRO 406 014 5		-90.00 UNCOR	1331720	S/N 105 Po 653932	00 028	26	Per 3.		•					STOP 406.100 ST 333.
<b>REOZ</b> (S.A.) MKR #1 FI		D UNCO				0		0	0	0		0	0	ST(
1998 <i>REC</i>	- 1	i		-100.0		-110.0		-120.0	-130.0	-140.0	Washington and the second	1160.	-170.0	Hz
DEC 16, 1	1110010	HEKULE				,					Market State of the State of th			MHz 3 30.0
_		<b>&gt;  </b>		MHz	dum						WHAT IN MAN			. 000
(4) 11:20:43 RI - AR RR AR	EN O d	ממ ספי	•	406.014 5	-		7	h DAUIN			Mark Sold Market			
	*	9	MAF		1	<del>-</del> 1					150 28m			START *RB 30

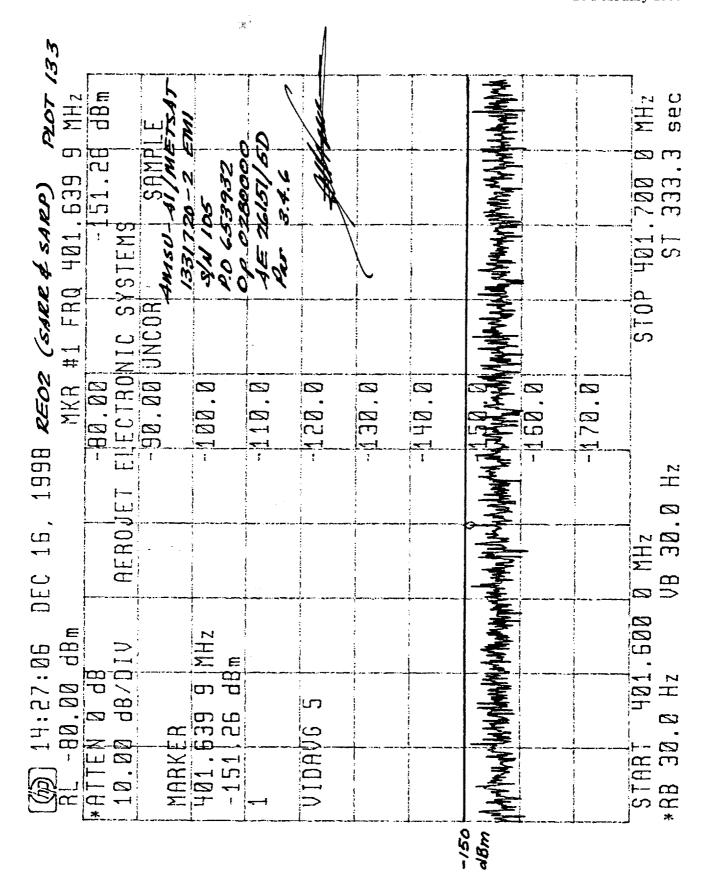
<b>PLOT 128</b> 5 MHz	53 dBm	MPLE VETSAT		250				white was the			8 MHz
SARE 4 SARP) FRO 406.170	C SYSTEMS	COR - SAMP 133/720-2 &	5/4 105 PO 453932	15 26151/ Par 8.4.6				my transfer the formatty that the second of			STOP 406.200 0 ST 30.00
DEC 16, 1998 REOZ (SARR 4SARP) MKR #1 FRQ 406.17	HEROVET ELECTRONIC	-90.00 UNCOR	-100.0	-110.0	-120.0	-130.0	-140.0	With the property of the state of the state of the	-150.0	-170.0	Ø MHz VB 100 Hz
24 48m			406,170 5 MHz -147 53 dBm		VIDAVG B			the transfer of the second of			START 406.100 0 *RB 100 Hz
				·.			145	18m			

129														:				2	6 Fet	orua:	ry I	999
PLOT	MHz	dBm		LII LII	75.AT		9					WHATA		-							BBB MHz	msec
a	9.650	29.11		SAMP	41/WA	5	55452	34.6	1		,	くなましてきてきない	1								1. BBB	144.0
\$ SAR	RQ 40	,	STEMS		183172	8/11/10	0.0 0.0 0.0	Par			Q	A MANAGEMENT			_							S
(SARR	* #1 F		IC SY	INCOR	<del></del>							-					To tally unphalabour characteristics such to				S	
1998 REOZ (SARR & SARP) PLO,	天天	0.00	CTRON	-90.00 UNCOR		-100.0		-110.0		-120.0	_	THE PROPERTY OF THE PARTY OF TH		7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	-15B.B	] •	-150.0		-170.8			
			ET EI			1	,	1		1				1		<u> </u>	1		1		,	D kHz
EC 16,			AERO VET		<del>-</del> .						-	To the second			-						MHZ	VB 10.0 kHz
	Bm			L 							•	-			· complete de la comp					,		
; 32 ; 4;	. BB d	Ø dB	dB/DI			至	1 dBm		- 1	æ	-				n de principa de desarro de municipalmo de las e						4 MB.	8 kHz
13	AL -BB. BB dBm	ATTEN	10.00		MARKER	409.65	-129,1	<b>~</b> —1		VIDAVG		A VAN HOMENA			To a second seco	<u> </u>					START 405.200	RB 10.
	,	*		<u>i</u>					l		dem											*

130		_			··•										
1	dBm		لبا			hillyterreture									MHZ
<b>6</b> 4 92	1 - 106.39 dBm		SAMPLE			Anyth Agenda	-118.8	100	2-26	32	2				425.00 10.00 m
1998 <i>REOZ (SARE &amp; SARP)</i> MKR #1 FRQ 414		rems				STATE OF THE PERSON		Men	33/72	6 26/10					3P 42
128 4 #1 F		5,78	OR			The state of			101	36 P.	7				STOP
Z CS.		NIC	ONC	<del>-</del>		The state of the s									
REO	-B0.00	ELECTRONIC SYSTEMS	0.00		-100.0	THE STATE	10.0	ממנו	ม เม	-130.0	-140.0	150.0	-160.0	-170.0	
1998	1		1		1	STATE OF THE PARTY	-		1	1	1			1	3.00 MHz
		AERO JET				THE STATE OF THE S		_			1		<del> </del>	_	. 00
DEC 16,		HER	-	• .		And the same							And the second s		MHz VB 3
		Λ				THE SECTION AND ADDRESS OF THE PERSON ADDRESS OF THE PERSON AND ADDRESS OF THE PERSON AND ADDRESS OF THE PERSON AD		-							Σ
7:2. 8 d	99	701			ZHW	Call and		+	<del></del>						411.00 MHz
3:3 8.8	2	qB			2 M	190		<u>ا</u>	3 5						<
[00] 13:37:23 RL -80.00 dBm	ATTEN	10.00		MARKER	414.9	Marked for the Arthur Sald Part	<i< td=""><td>a Silveria</td><td>7 7 7</td><td></td><td>1.</td><td></td><td></td><td></td><td>*RB 3.00</td></i<>	a Silveria	7 7 7		1.				*RB 3.00
	<u></u>	!			48m	<u> </u>		<del></del>		<b>L</b>	<b>1</b>	L		1	_  *

131																			
PL07	MHz	dBm		L	182			0					New Polytrick				phogram - moderning registers		MHz
(42	B.13B	33.63		SAMPL	41/44E)	25	53932	1121/12	3.4.6				. a landa da Haba		The state of the s			-	1.500
1998 REOZ (SARR & SARP)	#1 FRQ 398.138	1	ELECTRONIC SYSTEMS		-133172	SINI	0000	Je 2	de										STOP 401.500 ST 16.50
SARS) :	$\alpha$		NIC S	UNCOR									-						S
REOS	芸	-80.00	ECTRO	90.06		100.0		110.0	! ! !	-120.0		130.0	As de set the	A DANGE THE A	-150.0	160.0	0	D. D. I	
		l		1		1		1		1		•	A W. M. Wall		ę.			1	MHz VB 1.00 kHz
DEC 16,	:		AEROJET		٠.			Andrewson beautiful to the second				•	L-Akilloten	المال والمال					MHz VB 1.0
æ	dBm		10			7	E					And the second s	A which oh						000
13:44:18	30.00	N Ø dB	dB/DIV	second Associated and Secondary of Secondary	<u>~</u>	138 MH	$\Box$	derentario de californio de ca		JG B			H setter at all to be trait as A co			- is 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1			20
13:44:1	AL	*ATTE	10.0		MARK	398.	-133 6.			VIDAVG									*RB 1.
										761-	dBm								

60	701																		
D/01		į.		7847	3			0	9						Marshiller			MHZ	3 B C
(02)	MKR #1 FRQ 401.510 4	147.29	~~~	SAMP	20-2 €	05	280000	6121/5	7.4.8						A THE WAY THE			600 0	ST 30.00
exs	1 401	7	STEMS	4MSU-	13317	1/1/20	2000	SE 2	Ja	more and resemble		-			Manual Man			401	S
(SAR.)	#1 FR(		IIC SY	JNCOR			· · ·	The state of the s					2		A THE PARTY AND A STATE OF THE PARTY AND A STA			STOP	
1998 REOZ (SARR & SARR)	MKR	-80.00	CTRON	-90.00 UNCOR AMSU-		-100.0		-110.0		-120.0		0.0E1-	0 0 1 n	70.0		-150.0	170.0		
1998		<u>.                                    </u>		1				1	÷	1		1		-1	THE STATE OF THE S	<del></del>			Hz
DEC 16,			<b>AEROUET</b>										,		The southern the south of the southern the s			MHz 0	VB 100
	dBm		<u> </u>		and the second s	MHz	E			The state of the s								.500	
13:53:	30.00	N Ø de	3 dB/D		¥	7 2 7	25 dBm			16 B	N. One of the latest of the la				through party played barrie			401	
	RL -80.00 d8n	*ATTE	10.0	2	NHKK	HØ1.518 '	-147			VIDAVG		<b>.</b>	The state of the s		WANTHARD			START	* RB 10
	•										L			-145	dBm		-		<b>₹</b>

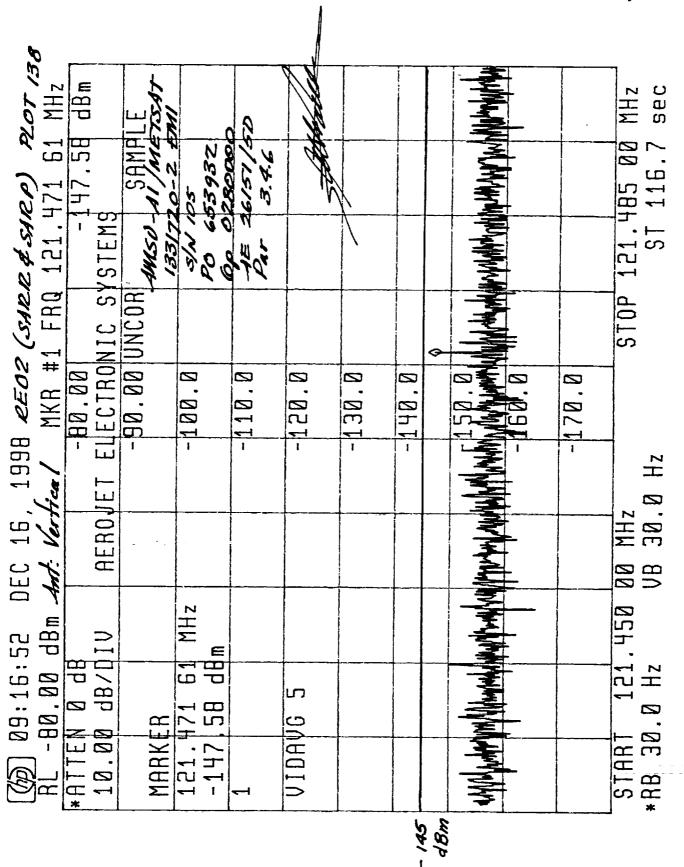


PLOT 134	6 MH <sub>2</sub>	3 d8m		7547	Emi		. 6	2			*** *** ***							MH <sub>2</sub>	
	1 401.742	-146.03		AMSU- AI MET	133/720-2	••	00028000	JE 26151/	Par 3.4.6					-			** ** ** ** ** ** ** ** ** ** ** ** **	401.800 0 ST 30.00	
1998 REOZ (SARR & SARP)	<del>-</del> -1 #;	-80.02	CTRONIC SY	-98.00 UNCOR		7.001		110.0	e un Prom	120.0		130.0E	-119.0	Later to	150.0		170.0	STOP	
16, 1998 4	:	}	HEROJET ELE	<u> </u>			and the second s	~				<u> </u>	5 d					MHz 100 Hz	
DEC	dBm		$\cap$			MHZ	E	-			4 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2					7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7		. 700 B UB	
[ <i>(49)</i> ] 14:32:33	RL - B0.00	*ATTEN 0 68	10.00 dB/0	Mank	֓֞֞֞֜֝֞֜֞֜֝֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֡֝֞֜֝֓֓֓֡֝	יומו. יאה ה	-145 03 dBm	<b>-</b>		VIDAV6 B				Lite and a little in the distriction				START 401 *RB 100 Hz	
								-					777	dBm	 			·	

135		p		<del></del>		<del></del> ·		,			· -	<del>,</del>	<b>~</b> "!	· · · · · · · · · · · · · · · · · · ·					<b>⊤</b>			
PLOT	MH.	dBm		L	7847 [M]		•	9					# 1/2 / The same								17 II II	Sec
	3.076	33.71		SAMP	31/M	<b>b</b>	2932	6/15/3	3.4.6	M			A LANGE				:			,	3.000	. 402
1998 REOZ (SARR & SARP)	Q 4B.	133.71	TEMS		MISU-	011/8	000	E 26	<u> </u>	***************************************	1							•••			STOP 406.000	<b>\</b>
11RR	#1 FR		5 / 3	-90.00 UNCOR	1		6.0	7	6,			4 4 4					1			;	S T 0	
02 (6	MKR	2	RONIC	NU BI		<b>E</b>		2	<del></del>	B		න:	3	<u></u>	c	SJ	6	 J	23			
BRE		80.00	ECT	98.2	ong personal services	-120.0		112.0		-120.0		130	2	हा ज	<u>د</u> د	מי מכל מי מכל	ES U		-178.			2
										1		-	5							;		3. BO kHz
DEC 16,			AEROUET	-									The best day of the									VB 3.
	dBm	[		-			<b></b>						1	<del></del>			₹		:			
35:46	1P BB	8 dB	B/DI(	; ; ;		垩	48 9 9			0			A STATE OF THE STA			<b>-</b> ·•					START 401.800	2HX
14:35:	<b>B</b> :			-	441	1.076	$\sim$			UIDAUG		7					; ; ;		! !	<u>.</u> 	E	3.88
		<u></u>	23	i i	MARK	403	-13			010			* T.				-			! ! !	S-H	æ ∝ *
										701	18m	•										

Re & SARD) PLOT 136 FRQ 118,105 MHz	10 -120.31 dBm	SAMPLE		のは、日本のは、日本のは、日本のは、日本のは、日本のは、日本のは、日本のは、日本	AMSU-41/METSAT	012	4E 26151/50 par 3.46	The state of the s			STOP 120.000 MHz ST 10.00 msec
DEC 16, 1998 REOZ (SARRE & SARD) Ant: Vertical MKR #1 FRQ 118.	AFROJET FIECTRONIC &	-90.00 UNCOR	-100.0	High Mark Ship Control of the Contro	{	D. BE 1-	-14B.B	-150.0	-150.0	-170.0	MHz VB 300 kHz
:01:15 .00 dBm	*ATTEN Ø dB		-/00 THAKER -/8m 118.105 MHz -119.71 dBm	Applications of the							*RB 300 kHz

						t.			26 Febr	uary 1999
-131.89 dBm /STEMS	SAMPLE AMSU-AI /METSAT	SN 105 00 653932	1E 26151/50 Par 3:46		was play for the was for the for the form of the					STOP 121.450 MHz ST 43.52 msec
HEROJET ELECTRONIC S	1	-100.0	-110.0	-120.0	And the state of t	-140.0	-150.0	-160.0	-170.0	MHz VB 10.0 kHz
*ATTEN Ø dB 10.00 dB/DIV	MARKER	120.430 MHz -131.89 d8m	-	VIDAVG B	A STANDARD OF THE PROPERTY OF					*RB 10.0 kHz
	0 dB -131.89 dB/DIV HEROVET ELECTRONIC SYSTEMS	day de de la contra del contra de la contra del contra de la contra del contra de la contra de l	0 dB  -131.89  -131.89  -131.89  -131.89  -131.89  -131.89  -131.89  -131.89  -131.89  -131.89	0 dB80.00131.89131.89 dB/DIV AEROJET ELECTRONIC SYSTEMS SAMPLE BRANKO AMSU-1100.0 SWING SYSTEMS SAMPLE SAMPLE SYSTEMS SAMPLE S	*ATTEN Ø dB - 131.89	0 dB  dB/DIU AEROJET ELECTRONIC SYSTEMS  B MHz  9 dB m  -110.0  -120.0  -131.89  SAMPL  -120.0  -131.89  -131.89	*ATTEN Ø dB 10.00 dB/DIV 120.430 MHz -131.89 dBm UIDAVG B	*ATTEN Ø dB 10.00 dB/DIU 120.430 MHz -131.89 dBm 1 UIDAUG B	*ATTEN Ø dB 10.00 dB/DIU 120.430 MHz -131.89 dBm 1 VIDAUG B	**ATTEN Ø dB 10.00 dB/DIV HEROJET ELECTRONIC SYSTEMS 10.00 dB/DIV -90.00 UNCOR 120.430 MHz -131.89 dBm -120.0  VIDRVG B -120.0  -120.0  -150.0  -150.0  -150.0



120	60,			· •		2 - 11 - 12										·			<b>-</b> ,	
•		dBm		LLI	7.547		0	9	\	1					CATALITY OF THE				MHz	
(00)	14/18	-153.99		SAMP	4 /W	3932	28000	6/15/19	3.4.6	A					A MANAGEMENT				1.515 00 ST 100.0	
2 4 54	121.5	-	STEMS		1MSU-,	S/N/20	00 00	45 30	ar		1	•			A PARTY SE	-		<u> </u>	121.51 ST	
DEC 16, 1998 REOZ (SARRE & SARR) PLON	1 FRQ		ELECTRONIC SYSTEMS	UNCOR	Υ										CONTRACTOR				STOP	
RE02	MKR #1	80.00	ECTRO	90.00		-100.0		-110.0		-120.0		-130.0	-140.0		20.0	160.0	-4 7B B	D .		
1998	tical	ī		ŧ		1		1		ı		1	1		ofthe heater	1	ı		MHz 30.0 Hz	
EC 16	int: Ver		AEROJET	-	-			<u>-</u>	•						**************************************				DO MHZ VB 30.	
		ľ	) I U		. 1	MHz	ממש					*****			E				. 485	
09:32:45		PON	D dB/DIV		<b>8</b>	114	נט			VG B					はく とうかん からから かんじっかんな				7 121 0.0 Hz	
	RL -	*ATTE	10.00		MARK	121	-133	<del></del>		VIDAVG					Whyport 1844				*RB 30	
														1/50	dBm					

2.391.

7	}		-																_
PLOT 140	MHz	dBm		L	ETSAT		. (	25	•										MHz
120)	330 01	51.69		SAMP	1/1/10	35	53932	19193	3.46					1,13,11					121.550 00 ST 116.7
e fs	121.5	ī	STEMS		1MSU-	1	0.0%								A STATE OF THE PARTY OF THE PAR			••	121.E
DEC 16, 1998 REOZ (SARRE & SARR) PLOI	1 FRQ		VIC SY	-90.00 UNCOR	1							and a second of the second of		3					STOP
REOZ	MKR #	10.00	ECTRO	10.00	<del></del>	-100.0		-11B.B		-120.0	 -130.8	- 4 40 0		50.0		60.0	-170.0	) •	
1998	tical	l	ET EL	1				-		1	1	1	7						ZH Ø
C 16,	t. Vers	-	<b>AEROJET</b>	-										1 1					BB BB.B
14 DE	IBm La		>			MHz								J. 111. J.					515 Ø
45:54 (b)	J. 88 C	BP 0	dB/D1		~	30 01	.69 dBm			3 5									121. Ø Hz
	RL -80.00 dBm	ATTEN	10.00		MARKER	121.5	-151 [	-		VIDAVG				1 1 2 1 4					*RB 30
	[	*	<u>-</u>					1		L	<u> </u>		140	1 =					<b>*</b> 

PLOT 142	rHz HR.	======================================	لنا					الواسلودواسية		747	>			-					MHz
			SAMP					<b>ŢŢŖŶ</b> ŶŖŖŖŖŖŖĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸĸ		14150-41 /MET	1381720-2 EMI	453932	5 02 80000 E 26151/50	24.6	The state of the s	1			STOP 125.000 MHz ST 10.00 msec
)2 (SARR 9	1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 +	ONIC SYST	UNCOR						A				01h	1					ST0P S
DEC 16, 1998 REOZ (SARRE & SARR)	71.00/ -80.00	ET ELECTR	-90.00 UNCOR		-100.0		-110.0	البالماطيا يوام البالماطيا والمرابع والإلام والمارية المرابدة والمرابعة والمرابعة	-120.6		-130.0	0 1 4	73. 1	-150.0		-160.0	1	-170.0	kHz
	- 1	AEROJ	-	• .				Arry Ball at the standard and standard	-										IB MHz VB 300 kHz
08:56:21	EN Q dB			KER	HE3 MH	9,12 dBm	•	THE STATE OF THE S	.8 9/16										RT 123.000 300 kHz
	* #	10.6		MARK	T	-119		Apply was held	JOIN							<del> </del>			START *RB 30

PLOT 143	79 dBm	SAMPLE		Milk		ETSIT.	000				MHZ msec
1 FRO 236 7	RONIC SYSTEMS			Cardin Control of the		1831720-2 EM	90 65393 90 02800 4 7 26151	Par 34.6			STOP 240.000 MHz ST 10.00 msec
DEC 16, 1998 REOZ (SARR 451RD)	HEROJET ELECTRONIC SYSTEMS	-90,00 UNCOR	-100.0	_	. [	-130.8	-140.0	-150.0	-160.0	-170.0	
i	AEROJET			B. B. 1 - B. A.							MHz VB 300 kHz
1,-	HILEN Ø dB 10.00 dB/DIV	MARKER	236.705 MHz -115.58 dBm	Afternature of the second	DAVG' 8						187 236.000 300 kHz
	# H #		8m 23	ANAL THE							START *RB 30

<i>‡</i>				5.			<b>-</b> ,
	Em!	00	White Hold williams				MHZ
DEC 16, 1998 REOZ CSAR R 454RP) PLOT Ant. Vortical MKR #1 FRQ 240.314 MHz -80.00 - 129.98 dBm REROJET ELECTRONIC SYSTEMS	SAMP 720-2 105 53932	3.46	THE STANSON OF THE PROPERTY OF THE PROPERTY OF THE STANSON OF THE STANSON OF THE PROPERTY OF THE PROPERTY OF THE STANSON OF THE PROPERTY OF TH			ר ר ר	sior cac.scs MHz ST B7.76 msec
HKR #1 FRQ 2- -BQ.QQ ELECTRONIC SYSTEMS	AMSU- 1331; 8/N, 0p 63	9 2 2 E	Chapter Application			00	ST S
72 (53) MKR #1 0 0 NIC	-50.00 UNCOR		Mary Market				n
98 <b>eeo</b> 2 NK -80.00 ELECTRO	-90.00	-110.0 -120.0	HIND GIVE	-140.0 -1500	-160.0	-170.0	Z
C 16, 19 of Vortical AEROJET			Mary market				JB 10.0 kHz
			The state of the s			- <sup>2</sup> Η Σ	
14:59:22 -80.00 dBm EN 0 dB 00 dB/DIV	MH Z d B m		all division in			248.888	«Hz
(42) 14:59 RL -80.00 ATTEN 0 d 10.00 dB/1	MARKER 240.314 -130.14	1 VIDAVG B	White State of the				10.0
RH * H	MAH.	<u> </u>	JANN WHAN			START	# *
		7	4				

1 DEC 16, 1998 REOZ (SARR & SARP) PLOT 145	-147.50 dBm	STEMS	AMSU-AI MESSAT	1331720-2 EMI	5/4 105 P.O. 453932	00 0280000	15 24151/50 Par 3:4:6	> July 1			while of the property and being the property of the			242.975 00 MHz ST 15.00 sec
(SHEL	3 C -	NIC SY	UNCOR				**************************************				THE PROPERTY OF THE PARTY OF TH			STOP
1998 REOZ	# 11111 -	ىب			-100.0		D . D I I .	-120.0	-130.0	-140.0	The property of the property o	-160.0	-170.0	Hz
EC 16		REROVET	<u>-</u> .								Mahlant	•		BB MHz VB 188
←1	וכ	) I U			MH <sub>2</sub>	===								925
15:05:	EN B de	0/8P 00	- L	1	242.968 81 -147 58 48			VIDAVG B			Harthorn and Andread and Andread			RT 242. 100 Hz
	* 8 1	10.00	2	TITE		7	<b>1</b>	VID		/45	18m material			*RB 100

PLOT 146	9 MHz	3 dBm		PLE 7847	11/12		9						MHz 7 sec
DEC 16, 1998 REDZ (SARR & SARR) P.	243.003 1	-152.0	STEMS	SAMPI 14/50-14/	74	3/N/105 10 653432 5p 0280000	1E 26151/3 Par 3.4.6				THE WANTER THE TENT OF THE WANTER WAN		243.025 00 ST 166.7
(SARR ;	1 FRQ		NIC SY	UNCOR							And market		STOP
B REDZ	MKR #	-80.00	LECTRO	-90.00 UNCOR		-100.0	-110.0	-120.0	-130.0	-140.0	-15000	-170.0	
6, 199	ertica!	•	AERO√ET E	•		,							MHz 30.0 Hz
DEC 1	Ant: V.		AER			7					AND THE PROPERTY OF THE PROPER		75 00 MHz VB 30.
0 h : 0	Ø dBm	99	/010		- w	19 MHz dBm							242,97; Hz
15:20:40	-80.0	TEN 0	10.00 dB/01		HKEH	3.003 52.03		VIDAVG 5			And branches the state of the s		START 2 *RB 30.0
	RL	* H	10	3	MHKK	243. -152,		I <sub>0</sub>			al8m		* RB

REOZ (SARR & SARP) PLOT 147 MKR #1 FRQ 243.074 06 MH2	-147.68 dBm	JAKSU-AI METSAT	\$4.105 90 653932 00 0280000	4E 26151/50				The state of the s			243.075 00 MHz ST 15.00 sec
DEC 16, 1998 REOZ (SARR & SARD) Im Ant: Vertical MKR #1 FRO 243.07	-BB.BB ELECTRONIC ST	-90.00 UNCOR	-100.0	-110.0	-120.0	-130.0	-140.0	The state of the s	-160.0	-170.0	ST0P
DEC 16, 19, 19, 4nt: Vertical	AEROJET	i	Hz								25 BB MHz VB 1BB Hz
(4) 15:25:53 RL -80.00 dBn	*ATTEN Ø dB 10.00 dB/DIV	MARKER	4 06 M		итряйс в			THE PROPERTY OF THE PARTY OF TH			*RB 100 Hz
<u></u>	*	1	1	<u> </u>		1	146	dBm dBm			*

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<u>00</u>											 							
20T 14	H MHz	dBm		LJ			A	9	MI		throthully and							MHZ
ر ر	14.15r	132.87		SAMPLE	20-2	2	55932 280000	6/12/18	7. A.C.		The state of the s							46.000 975.0
\$ SAR	FRQ 21	,	<b>/STEM</b> 9	-90.00 UNCOR	1331720	S/N/05	60 65	SE 2	far		A HAMANANA							STOP 246.000 m
BAKS)	R #1		VIC S	UNCOR							Anthorna Car					And the Control of th		S
RE02	MK	30.00	ECTRO	10.00		-100.0		-110.0		120.0		-140.0	מ	и. Попет	-150.0	0	-1/0.0	
1998	tical	ı	ET EL			1		1		-	THE WAY	1		!	I		I	M KHz
:C 16,	Ant: Vertical MKR #1 FRQ 244, 154 MHz		AEROVET		٠.						Threshold the							MHz VB 3.00 kHz
	=					7	E				-							075
15:29:04	.00	1 Ø dB	1 dB/0		<u>~</u>	Σ	.87 dBm			H 9/	いったかっくないあれることがあることがいるというない						:	START 243. *RB 3.00 kHz
	RI -8	*ATTEN	10.00		MARKER	244.1	-132			UIDAVG	Many Just be							START *RB 3.

<b>8</b>	NIC SYSTEMS	UNCOR SAMPLE		His company of the complete of the company of the company of the company of the contract of the company of the	4MSU-41/METSAT 1381720-2 EMI 51H 105	1 1 N 1	Var 3.46				STOP 250.000 MHz ST 10.00 msec
DEC 16, 1998 REOZ (SARR \$ SARD)	AEROJET ELECTRONIC SYSTEMS	- 90.00	-100.0	Market Market Search and Market Market Search Search Search Search	-120.0	-130.0	-140.0	-150.0	-160.0	-170.0	MHz VB 1.00 MHz
15: 3 -80.	*ATTEN Ø dB 10.00 dB/DIV	MARKER	5 MHz 1 dBm	Harmer	VIDAVG B						START 246.000 *RB 1.00 MHz

"RE \$ SARP) PLOT 150 #1 FRQ 399,94 MHz	1 - 108.97 dBm		COR			<	THE WASHINGTON TO THE PROPERTY OF THE PROPERTY	3	133/120-2 Cm1	PO 663932 Op 0280000	lar 3.4.6				STOP 401.10 MHz ST 10.00 msec
DEC 16, 1998 REOZ (SARR # SARP) In Ant: Vertical MKR #1 FRQ 39!	-80.00	HEKUJEI ELECIKUNIC SYSIEMS	-90.00 UN		-100.0		Manda Company of the Control of the	-120.0		-130.0	-140.0	-150.0	-150.0	-170.0	MHz VB 1.00 MHz
(4) 15:38:09 D	*ATTEN Ø dB	10.00 dB/UIV		MARK	399.	-108,99 dBm	Harding by barnagistis	VIDAVG B							*RB 1.00 MHz
				1	dBm										

121	1			· · · · · · · · · · · · · · · · · · ·			·	1		1	<b>-</b>	F**			1					7	
PLOT	Int. Vertical MKR #1 FRQ 405.492 MHz	dBm		F	EMI				N. C.	•		The state of the s								MHZ	ST 144.0 msec
3	5.492	-125.33 dBm		SAMPL	0-2	35	0000	101/00	K			الماليداليال								STOP 405.900 MHz	44.0
\$ 54R	Q 40.	-	TEM3	A-108/	1831 72	5/11/05	p028	10 ZG/		1		MANAMAN								16 40	S - 1
4EE .	1 FR		S	OR	7	, 0	0	La				A LANGE				-				<u>ST(</u>	
<i>'S' '</i>	(R #		NIC	UNC								VI WALL		_							
REOS	Ξ	-B0.00	CTRC	-90.00 UNCOR		-100.0		-110.0		-120.0			-1 4B B	] ] -	-150.0		-16U.U	r	-170. -		
998	cal	<u>-</u>		<u>-</u>				1		5-1	-		1	<u>-1</u>	I		1		ı		k Hz
6, 1	Test		30 UE.		· · · ·						-										VB 10.0 kHz
EC 1	Ant:		REF	-	• ,							A Leading to				-				MHZ	NB
	E	1	<u> </u>			2	Œ				4 1	wheel had								401.100	2
15:41:32	000		$\Box$		<del>.</del>	至	map E			В	-	A CHARLES								401	D KH
15:	_80.00 -	TEN 0	10.00	1	MARKER	5.492	25 3.			VIDAVG		A CONTRACTOR								START 401.	10.
		# H	18		MAF	405.4	- 10			5										ST	* BB
											-/25 JRm	3									

(SARP) DLOT (52	01	,		150-AIMENSAT	1331720-2 EMI	S/N 105 PO 653932	000082000	4E 25 150	SAMAL			The first of the state of the s			406.000 0 MHz ST 30.00 sec
(SARR 4	#1 FRQ		NIC SYS	UNCOR	7	34	0	y ×							ST0P
¥ 86€	_	-80.00	ET ELECTRO	-90.00 UNCOR AMSU- SI SAME		-100.0		-110.0	-120.0	-130.0	-140.0	Market Bright Andrew Land Market Bright Bright	-160.0	-170.0	Hz
DEC 16,	4nt: Vertica		NERO J									A Market Million And Andrews A			BB B MHz VB 1BB
54	-80.00 dBm.	*ATTEN Ø dB	10.00 d8/DIV	M 7/100	t	405.901 9 MHz	3	<b>—</b>	VIDAVG B			Appropriate Colored Company of the Colored Col			START 405.900 *RB 100 Hz
	•				1_		<b></b> I		<u> </u>	1	146	dBm		·.	. *

DEC 16, 1998 REOZ (SARRE & SARR) PLOT 153	MKR #1 FRQ 406.012 6 MHz	-152.19 dBm	SYSTEMS	RISAMPLE	1331720-2 EM	S/N 105 PO 663932	00 0280000	4E 26151/80				And printed desired because may be made to be a separate of the separate of th			STOP 406.100 0 MHz ST 333.3 sec
102 (SAR	KR #1 F	00	TRONIC :	-90.00 UNCOR		0.		<u> </u>	0.	0.	8.	And Market Barre	. 0	0.1	S
1998 RE	tical M	<u> </u>		-90.		-100.0		-110.0	-120.0	-130.0	-140.0	Appropriate the state of the st	-160.0	-170.0	Ø Hz
DEC 16	Ant: Ve		AEROJET	-	>-							THE PROPERTY AND			Ø MHz VB 30.0 Hz
<b>.</b>	E	d B	dB/010		EQUENCY	Ø MHz						Short state for the			406.000 Hz
(A) 16:44:32	3L -80, E	ATTEN 0	10.00 dB		START FR	чаб. вов в мн			VIDAVG B			of transmitted fundamental			*RB 30.0 Hz
		*	~~~			<u> </u>			<u> </u>			48m			*

4 DEC 16, 1998 REOZ (SARRE & SARR) PLOT 154 18m Int. Vertical MKR #1 FRQ 406, 180 3 MHz	-147.53 dBm	YS I EMS	1831720-2 EMI	5/4 105 PO 659932 Do 0340000	4E 26151/50 Par 3.4.6				My day by hand My hand My thank the light			P 406.200 0 MHz ST 30.00 sec
<i>:02 (sare</i> KR #1 FR	00	- COR CONTROL STATEMS		B. 1	D .	0.0	D. 0	) . Ø	History of the party	B . G	0	STOP
1998 Re	.08-	שבובר בובר	D.	-100.0	-110.0	-120.0	-130.0	-140.0	physical production of the second of the sec	-160.0	-170.0	Hz
DEC 16,	C L	HEMUUE							Harrist Problem PA			0 0 MHz VB 100 Hz
:00:14 J.00 dBm	TTEN Ø dB	01/1/gp	BANDUIDTH			<b>a</b>			Martin Martin Mar			406.100 Hz
(4) 17:00:1 RL -80.00 d	*ATTEN	I W . WW	RES BA	100 Hz		VIDAVG			+			START *RB 100
								-145	dBm		-	

Ŕ				<i>(</i> , ,							
<b>PLOT 155</b> 4 MHz	dBm	E   SAT		2			All the second	- -			MHz
7. 934	-136.95 18	SAMA	33.6	151/54			The state of the s				411.000 ST 14.40
45.4E	TEM -	4-05mb	9/N 105 5 653 00 002	1E 26			whether had blice but the				STOP 411.000 ST 14.40
sales #1 FF	S	ICOR.	.40	114							ST(
DEC 16, 1998 REOZ (SARR #SARP) PLOT. Ant: Vortral MKR #1 FRQ 407.934 MHz	TRONI	-90.00 UNCOR	g . g	g. B	9.0	3.8	dividing.	3.0	9.0	3.0	
398 æ	-BB, BB ELECTRO	-90	-100.0	-110.0	-120.	-130.0		-150.0	-160.0	-170.0	γHz
DEC 16, 19	AEROJET						The second second				MHz VB 1.00 kHz
DEC 1	AEF										7
	B II U	LEVE	E								6.200 Hz
(2) 17:29:12 3L -80.00 dB	A B d d	REFERENCE LEVE	-80.00 dBm		JG B		highlysphal				1 40 k
	*ATTEN Ø dB 10.00 dB/DIU	REFE	-80.		VIDAVG		HAMING HELLEN COMPANY OF THE PROPERTY OF THE P				START 406.200 *RB 1.00 kHz
	<u> </u>		·	•	125	dBm				~ <u>_                                    </u>	<b>→</b> ‴

PLOT 156	<b>-</b>			1		··-		<u> </u>		1			<del></del>		<b>-3</b> -				7	
P207	dBm	L L	727		. (	6	1	1						<	- T	•	en et en		MHz	
(42) UC	36.13	SAMA	1/ME		3932	151/5	3.46	A	The second				1		THE PROPERTY.	-			5.00	12,00
REOZ (SARR \$SARP) PLO; MVD #1 FDO UDU ED MU-	- N	2	MSU-1.	501 N/S	00 63	A. 2	lar 3								The state of the s	•			STOP 425.00	ST -
(SAR	# J	INCOR.	4												Spart May				50	
REO2	-60.00	0.00		-80.00		90.00		-100.0		110.0	0	-140.0	1	_130.U		, ,	-150.0	<u>, , , , , , , , , , , , , , , , , , , </u>		
1998	- 6 - 7	-70.00 UNCOR,		<del>0</del> -		<u> </u>		1		1		1		<del> </del> 	AND AND A	<u>-1</u>	1			1.00 kHz
DEC 16, 1998	DEBO 1	11100	-												A TO THE PROPERTY AND T				MHz	VB 1.0
E	<b>≡</b> ĺ	<b>^</b> 1	DTH								design manager state que commune au partir de la commune d	· · ·			A THE PARTY OF				M 00	
(2) 17:23:00		200 0	RES BANDWIDTH	kHz		•	- 1	16 B							Appropriate				411	DO KH
	*ATTEN 0 dB	70.07	RES	1.00				VIDAVG							April All				START	*RB 1.00 kHz
							00/	18m								-			-	

20 07:54:	CJ E	17, 19	98 86	SAER	DEC 17, 1998 REOZ (SARR & SARP)	PLOT 157
ATTEN 0 dB			-80.	# = = = = = = = = = = = = = = = = = = =	100 - 100 - 100 7B	78 dBm
DAB dB/D		AERO VET	ELECTRONIC SYSTEMS	NIC S	STEMS	
			-90.00	UNCOR	Ì '	SAMPLE
MARKER					AMSU-41/1	WETSAT
HW BE	2		-100.0		SOINS	
.78 dB	E				Po 65393.	0 0
			-110.0		4E 26151	99
VIDAVG B			-120.0			
			-130.0			
The property of	MANNER PLANNING TANK		the free when he will	Vandilland	ANTINOMINATION AND MAINTAIN AND TO A TOTAL T	hathalannafrafrakravn
: : : :			a halata.			
			-150.0		The state of the s	
			-150.0			-
			-170.0			
START 396	BBB MHz			S	STOP 401.500	SOB MHz
1.00 kHz	0.8	1.00 kHz	Hz		ST 16.50	.50 sec

158	Γ	<del></del>	<del></del>	<u> </u>		7	1						7
ZOZ,	dBm	L	TSAT	1		) , c				WATER AND			MHz
<b>₩</b> 52	1.1	2	A STATE	332	900	6/21/3 84.6				Hannigh			STOP 401,600 0 ST 30.00
ARP	<u> </u>	Σ. Σ.	0-11	105	028000	) A		\					31.6 ST 3
2 45 S		X 2 1	JMSU-	330	0	2 de							д Н d(
SAE		S JI	NCUT							Martin Park			STC
DEC 16, 1998 REOZ (SARR & SARP) PLOT 158 Int. Vertical MKR #1 FRO 401, 592 5 MH,	-80.00 -148.13 dBm	HEHOUE! ELECIRONIC SYSIEMS	B D	0.0		23	0.0	0.0	0.0	who to be the first of the first of the following the following the first of the fi	8.8	B . B	
38 <b>6</b>	08-	LLEC	7 D	-100.0		и. Пти	-120.0	-130.0	-140.0	1	-160.0	-170.0	
19!	ŀ	-								May May			Hz Hz
18		1E.H.0.								The state of the s			0 MHz VB 100 Hz
				_						ALIANA.			0
:45   dBm		)     	1 L U I			*				Markada			11.50
8:38 0.00	Ø dB	dB/	DIUND	HZ ZH			B 9			A HAMPAN			401. 0 Hz
(4) 18:38:45 RI - RM. MM AB	TTEN	N N N	— <del>а</del>	100 H			UIDAVG		5	Aphyladian Mary Manday Manday Mary Mary Mary Mary Mary Mary Mary Ma			*RB 100
	*						<u> </u>		145	J8m	-		*

PLOT 159 4 MHz 8 dBm	PLE 75A7 6M1	0	8				A AND TANKE			MHz D
JEC 10, 1956 KEOZ (SAKK & SAKP) VLOT Ant: Vertical MKR #1 FRQ 401.648 4 MHz -80.00 -151.78 dBm REROJET ELECTRONIC SYSTEMS	SAMP	53932	26151/8	N.			AND CONTRACT OF THE PROPERTY O			700
Cal MKR #1 FRQ 401BO.DO ELECTRONIC SYSTEMS	AMSU-	300	t de				A Joseph Parker			STOP 401
# # 1 F 3	-90.00 UNCOR	Į.	Į.	2		E	A PARTITION	2	P	ST
H <b>KEOZ</b> MKR -80.00	-90°.	-100.0	-110.0	-120.0	-130.0	-140.0	2	-160.0	-170.0	
ertica.							工			1Hz
Ant: Vertion	· ·						THE			MHz
dBm / UIV	DTH						Andrew Park			401.600 0 MHz
30.00 80.00 80.00 80.00	RES BANDWIDTH	Hz		JG B			AMANA MANA			10h J
### 15:37:02 RL -80.00 dBm. *ATTEN 0 dB 10.00 dB/DIV	RES	30.0E		VIDAVG			A Laberta Par			START 401

A207 160 MHz dBm	L							A STATE OF THE STA			MHZ
	2	大学 10-0	105 653932 0280000	3.4.6				AND THE PARTY OF THE SAME AND THE PARTY OF T			8 8 8 8 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
0 401.	ELECTRONIC SYSTEMS	JMSU-41	3/N 105 Po 653 Op 028	70							401.
#1 FR	ONICS	UNCOR J									STOP
MKR HØ. ØØ	LECTR(	70.00 	-100.0	-110.0	-120.0	-130.0	-140.0	14.5 B	-160.0	-170.0	
ertical	AEROJET E							-			MHz UB AB M H
Ant: V	AER(				,			THE WAR			
E	010	ID TH						Armyly Language About House			401.700 Hz
SC -80.00 dBn	10 dB/	RES BANDWIDTH	HZ		106 7			***			6
RL -BB, BI	10.0	RES	30.0		VIDAVG			<b>季</b>			START *RR 3B

>					, ( <b>. F.</b> )	-								Report 26 Febr	11411 uary 1	999
AV	dBm		LE	EMI		05			-		Appropriate the same of the sa				MHz	] sec
707	-142.78		SAMP	20-2	39.52	2000	3.4.6				THE PARTY OF THE P				406.000	140.0
REOZ(SARE & SARD)	- TRUE -	ELECTRONIC SYSTEMS	AWSU-	133172	5/1/11	000	hor				HAND THE PART HA				STOP 4	ST
2(5AR.	11KK #1	NIC S	-90.00 UNCOR			-									S	
	-80.00	ECTRO	90.00		100.0	0 0 7 7	-110.0	120.0		130.0		150.0	-160.0	-170.0		
	Mical				1		1	1			TANKA MANANA	1	1	-		0 Hz
DEC 16,	Ant: Ve	AEROVET	-	•							1				MHz	VB 300
6.7	E	ΛI		H							The hard training the state of				1.800	Hz
20:39:29	FN N AR	10.00 dB/DIV		BANDWIDIH	HZ			B 90			All Want					<b>B</b>
	* HL -	10.0		RES	00E			VIDAVG			A STATE OF THE STA				STARI	*RB 3
	-							ļ								

1 FRQ 59.457 690 MHz NIC SYSTEMS	SAMPLE SAMPLE	AMSU-AI/METSAT 1831720-2 ETNI	00 453932 Do 028000	4E 26151/50 Par 3.4.6				"the foreign for the foreign that the second of the second		SPAN 1.000 KHZ ST 10.00 msec
DEC 17, 1998 <b>2602</b> MKR #1 HØ. ØØ AEROJET ELECTRON	į	-68.88	-70.00	-80.00	98.88	-136.0	-112.8	からかないというからいからからいいというないないからいからいからいからいからいからいからいからいからいからいからいからいからい	138.2	DOD MHZ UB 30.0 KHZ
(42) UN: 26:3/ RI -40.00 dBm *ATTEN 0 dB 10.00 dB/DIU	DISPLAY LINE	-52.00 dBm		VIDAVG B				and and and transportation the second of the		* CENTER 59.458 P

50.099 981 MHz -120.89 dBm STEMS SAMPLE	1480-41/METSAT 1331720-2 EMI 34105 20, 453932	1E 26151/50 Par 3.46.		The many the second of the sec		SPAN 1.000 kHz ST 10.00 msec
DEC 17, 1998 REOZ Beciltos.  MKR #1 FRQ 50.099  -40.00  REDECTRONIC SYSTEMS -50.00 UNCOR	90.03- 90.03-	-90.00	0.00	the many of the state of the st	-138.8	OBO MHz VB 30.0 kHz
(49) 00:31:19 RL -40.00 dBm *ATTEN 0 dB 10.00 dB/DIV DISPLAY LINE		VIDAV6 B		Lography of the street of the		CENTER 60.100 *RB 30.0 kHz

360 059 MH2 19.76 JBm MS SANPLE	4MSU-41/METSAT 1381720-2 EMI 5/M 105 P.O. 653932	00 6280000 45 24/51/50 Par 3.4.6		Highway Hanner Markey Constably Cons	AN 1.882 XHZ
1998 2502 Jacial Frag.  MKR #1 FRO 141.36  -HO.00  FIFCTRONIC SYSTEMS -50.00 UNCOR	-60.80 4msc 138.	-80.00 -90.00	-11a.a	Andrew Commence	SPUN ST.
DEC 17, 19 NEROJET				MANNEY TON THE LAND WAS AND THE TON TH	58 ROBE MHZ
(0) 00:35:41 PL -40.00 dB dB	- 58. QU dBm	VIDAVG B		State of the state	CENTER 141,31

	ก  บ	SAMPI, E	1831720-2 EMI	00.653932 00.0280000 47.22151/50	3.4.6	5			Mary pather seges solly son wanger		SPAN 1. BBB KHZ
MKR 11 FRO 142. 908 333	AEROJET ELECTRONIC SYSTEMS	-50.00 UNCOR	-60.00 - 4ms.	00.00	-80.20	-90.00	-188.8	-110.0	the property of the second property of the second property of the second	-130.0	8
RI -40.00 dBm		DISPLAY LINE	-60.00 dBm		VIDAVG B				the second property of the second		CENTER 142.900 DOO MH

282.733 298 MHz	STEMS -120.01 dBm	SAMPLE	1831720-2 EMI	00 653932 00 0280000	4E 26151/50 Par 3.4.6	THE WARRY			And Mark to the transformation of the free free of the state of the st		SPAN 1.000 kHz ST 10.00 msec
DEC 16, 1998 REOZ Secriel Frag. 73 MKR #1 FRQ 282.73	AEROJET ELECTRONIC SYSTEMS	,	- 60.00	-70.00	-80.00	90.06-	-100.0	-110.0	ABATHATHATACATACATACATACATACATACATACATACAT	-138.8	a dad MHz VB 30.0 kHz
(4) 23:08:47 RL -40.00 dBm	*ATTEN Ø dB 10.00 dB/DIV	L	-60.00 dBm		VIDAVG B				Later Justin Harman Bank of Justin Surger Proper Play		*RB 30.0 kHz

AEROJI AMANAMANAMANAMANAMANAMANAMANAMANAMANAMA	(A) 23 RL -40	:13:37 .00 dBm	DEC 16,		1998 REOZ Gacial Fre. 0207 /	207 167
11SPLAY LINE -50.00 UNCOR SAMPLE -60.00 - 100.00	ATTEN 10.00	0 dB dB/01V	AERO	JET ELECTRO	NIC SYSTEMS	1.64 dBm
-60.00 dbm -60.00 mss/-4/me3537  1000 8 -25.720-2 cm/ -70.00 9 -25.720-2 cm/ -100.00 9 -25.720-2 cm/ -	) ISPLA	Y LINE		1		SAMPLE
10AVG B	-60.00	dBm		-50.00	-1M50-A1/	METSAT
10AUG B				-70.00	4 0	
= 100.00 -100.	IDAVG			-80.00		0000
ENTER 285.813 000 MHz  -100.0  -100.0  -110.0  -130.0  -130.0  -130.0  -130.0  -130.0  -130.0  -130.0  -130.0  -130.0  -130.0  -130.0				-90.00	1'ar 3.4	9. 1
ENTER 285.813 000 MHz  -110.0  -110.0  -110.0  -130.0  SPAN 1.000 KHz				-100.0		
ENTER 285.813 888 MHz  -138.8  SPAN 1.888 KHz				-110.0		
B13 000 MHz SPAN 1.000	To be company	property of properties	Jahrhar L. Children	LIGHT BOTH WHITE	shoot was been properly and the second state of the second state of the second	AND HEALTH AND THE STATE OF THE
B13 BBB MHz SPAN 1. BBB				-130.0		
	ENTER B 3B B	285.813	M BBB	1	SPAN 1.	BBB kHz

.00 dBm	MKR #1 FRQ 371.921 085 MHz	71.921 085 MHz
*ATTEN Ø dB 10.00 dB/DIV	AEROJET ELECTRONIC SYSTEMS	-120.39 dBm STEMS
1SPI AY INF	i	SAMPLE
-60.00 dBm	-60.00	1331720-2 EMI
	-70.00	SIN 105 00 25 3932 00 028 000
VIDAVG B	-80.00	4£ 26151/50 Par 3.4.6
	-90.00	
	-100.0	
	-110.0	
المراكل مرموس والمرابط والمراول والمراول المراول المرا	winder of the second of the se	والمهام والمام والمراد
	-130.0	
CENTER 371.921	BBB MHz	SPAN 1.000 kHz

-H0.00
ONIC SYSTEMS
-50.00 UNCOR SAMPLE
-50.00 +msv-41/metsor
8 3
-80.00 A£ 26151/50
- AMMARIA
-110.0
Marine Marine Contraction and Marine Contraction of the Contraction of
SPAN 1.000 KHz
-70.00 -90.00 -110.0

1998 REOZ Special Free PLOT 170 MKR #1 FRQ 624.925 306 MHz	IC SYSTEMS	-50.00 UNCOR SAMPLE	4MSV-41/METSAT 1331720-2 EMI	3932	1	Milater			the word of the property of th		SPAN 1.000 kHz
DEC 16, 1998 RE62 MKR #1	AFROJET FIFCTRON	;	-60.00	-70.00	-80.00	00'06-	-100.0	-118.0	Charles of the property of the	-130.0	BBB MHz
(4) 23:33:29 D RL ~40.00 dBm	*ATTEN Ø dB 10.00 dB/DIU	NICDIDY I TNE	-60.00 dBm		VIDAVG B				Phinterlay of postilination of the property of		CENTER 624.925

1998 REOZ Braid Frey PLOT 171 MKR #1 FRO 631.730 164 MHz	.112.82 dBm	SYSTEMS	R SAMPLE	A1/MET	1331720-2 EMI	PO 65 3932	000000000	Par 28.46	The state of the s		المؤامر ومهدادة والمراد والمرا			SPAN 1.000 kHz	ST 10.00 msec
DEC 16, 1998 <i>eeo2</i> AMKR #1 FRO	-HB, BB	AEROVET ELECTRONIC	-50.00 UNCOR	 -60.00		- 70.00	6	77 7 P -	-90.00	-100.0	Labour Marian Company of the Company	-120.0	-130.0	730 000 MHz	VB 30.0 kHz
[00] 23:40:05 RL -40.00 dBm	*ATTEN Ø dB	10.00 dB/DIV	to the same of the	 16m - 60.00 dBm			- {	UIDAVG B			in a province of the state of t			CENTER 631.73	*RB 30.0 kHz

	(2)
HEROJET ELECTRONIC SYSTEMS	C SYSTEMS
-50.00 UNI	COR SAMPLE
-80.00	M/14
-70.00	1331720-2 EMI 9/4/105 10 658932
-80.00	15265000 1526151/50 121346
-90.00	
-100.0	
-118.8	
ALTHOUGH AND TO MAKE THE PROPERTY OF THE PARTY OF THE PAR	property for the second second second
-130.0	
Hz	SPAN 1. BOD KHZ
	-60.00 -70.00 -90.00 -90.00 -110.0 -130.0 -130.0

Jewis Frey PLOT 173 FRO 751.943 888 MHz	1.5.77 OBM	SAMPLE	-41 /METSAT	S/N 105 1.0. 653732	1E 2615/50				Appropriate Color of the Color		SPAN 1.000 kHz
1998 REOZ Janiel Fre MKR #1 FRQ 751.	_Z	-50.00 UNCOR	-60.00 AMSU-AI	-70.00 SIN 100.00-	-80.00 6	-98.00	-100.0	-110.0	the state of the s	-130.8	SPAN
DEC 16,	IV AEROJET	N N							The state of the s		344 BBB MHZ
[0] 23:51:28 RL -40.00 dBm	10.00 48/0	DISPLAY LINE	Jen -60.00 dBm		VIDAVG B				way Warner Water the warner of the said		CENTER 751.

7 /74 MHz	dBm	Li		TAST	EMI					1	Year Hotelians		X H 7
2 Jewiel Frey PLOT 174 #1 FRQ 59.457 514 MHz	120.24	SILMS		MSU-AI/METSAT	720-2	8/N 105 PO 653932	4E 26151/51				Mary May Mark Mary Control		SPAN 1.000 KHZ
DEC 16, 1998 REO. This Will 1	00.01-	HEKUJEI ELEUIKU I -50 NA		-68.88		-78.83	-80.00	-98.80	-102.2	-118.8	Market on the formation of the state of the	-130.8	BBB MHz
(42) 23:59:35 RL -40.00 dBm	*ALTEN D dB	16.00 08/010	DISPLAY LINE	-60.00 dBm			VIDAVG B				May by the state of the state o		* CENTER 59,458

42-1	20.73	-50.00 UNCOR SAMPLE	-60.00 AMSU-41/METSAT	. ") .	4E 26151/50	-90.00	-120.2	-110.0	A While will a second the second of the seco	-138.0	MU-
		DISPLAY LINE	48m -60.00 dBm		VIDAVG B				The state of the same of the s		CENTER ED 100 000

141.360 285 MHz -120.52 dBm	3. SAMPLE	4MSD-41/METSAT	5/V 105 P.O. 653432	4E 26151/60	- Allendaria			the gold the will pring to be a super surprise to the good of the gold to the gold the property of		SPAN 1.000 kHz ST 10.00 msec
53 DEC 17, 1998 REOZ Secial Frey P. 20, dBm Lot Vertical MKR #1 FRQ 141.350 285 - 40.00 - 120.52	-5a, ad uncor	-60.00	-70.00	-82.07	-90.00	-100.0	-113.0	the work the standing of the s	B. BE 1-	B BBB MHz UB 30.0 kHz
(Q) 00:11:53 RL -40.00 dBm *ATTEN 0 dB	i	-60 -60.00 dBm		VIDAVG 8				was marked by the work of the property of the second of th		*RB 30.0 KHz

*ATTEN 0 dB
dB/DIV AEROVET
UISPLHY LINE
,
Market de la company de la com
CENTER 142.900 000 MHz

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OT 178	I MHz	dBm		<u>Г</u>	<b></b>	75.87	Inc		·	0	1	1				Tradition of the state of the s				kHz	msec
d	2 878	09.97		SAMPLE		"/MErs	•	3932	80000	JE 26151/50	3.4.6	The state of the s			-	X Frank				PAN 1.000 kHz	00.0
Frey	B2,73	1	STEMS			445U-41	13317	P.O. 653932	5000	AE 26	Par		N							SPAN	ST 1
Jocial	- RQ 21		C SYG	ICOR		*			0	1								·			
DEC 16, 1998 RE02 Social Fory PLOT 17	#1 +	.00	<b>AEROJET ELECTRONIC SYSTEMS</b>	. BB UN	<del>- 7 - 5 </del>	50.00		00.		90.00		90.08		D . B	# <b>170.</b> 1		<b>B</b>	J	Z . Z		
<b>3</b> 866	MKF	0 H -	ELEC	-50	ph	<u> </u>		-70.00		<b>DB</b> -	·	- 90	- 1	-100.0		L A	מכו-	<u>1</u>	-130.0		MHz
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44	dBm				INE	_									11					2.733	4 <u>z</u>
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] 22 [	- 4B	Z W			PLA	) . W B				UIDAWG				<u>.</u>	17					 ITER	1.0
[66] 22:13:44	RL	LU#	10.																	CENTER	*BB
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DEC 16, 1998 REGZ Jacial Frey PLOT 179 Int: Vertical MKR #1 FRQ 285.812 B70 MHz	dBm		7887	[M]	93			はかっていまいいというないというないというないというないというないというないというないと			kHz
d 878	נו	SAMPL	ME	3932	26151	W.		What he			PAN 1.000 kHz ST 10.00 msec
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ecio/   285	SYST	i i	4111.	60.	8 4 da			THE STATE OF THE S			SPS
FRO	JI C	UNCO						eghaphason			
RE62	L. BB	-50.00 UNCOR	60.00	-70.00	80.00	90.00	-100.0	TO THE	-120.0	-130.0	
. 98 . MK	-48 EUE(	- 50	9-	-70	<u> </u>	D6-	-10	To The same	- -	E	MHz
, 19 fical	SET							The Total			
C 16	AERC							A Parket			BBB MHz VB 1.00
								7 Table 1			(LL)
B:50 0 dBm	4B 701V	L I NE	B					* Ather			285.81 MHz
22:1 40.0	N Q B	ΑΥ	P 00		9 O			Harry Water			R 28
(4) 22:18:58 RL -40.00 dBr	*ATTEN Ø dB 10.00 dB/DIV	DISPLAY LINE	-60.		VIDAVG			والمائدية والمائدة والمعاددة والمائدة و			CENTER 2 *RB 1.00
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80		<b>_</b>		· <del>, · · ·</del> ·		L		<del>,</del>				<del></del>			<del></del>	7
P207180	MHz	dBm		LI LI		747	1111			2	N		spanings.			kHz msec
•	1 334	-110.30 dBm	**************************************	SAMP		JME	2-02	3932	0280000	26151/50	THE STATE OF THE S		A CANADA			1.000 0.00
1 Frey	71.92	<del></del>	STEMS			HISU-	11/20	20 65	00 02	16 26			A THE PARTY OF THE			SPAN 1.000 ST 10.00 m
DEC 16, 1998 RE02 Janial Frey PLOT.	FRQ 3		IC SY	NCOR		7			8				by Huth Ares			
RE02	R #1	9.00	CTRON	3.00 U	-	-60.00		00'04-		80.00	90.06	-100.0		-120.0	-130.0	
1998	1 張	3H-		-56		<u> </u>	-	1/2		3B-	16-	-18	MANAMAN			MHz
16,	Vertic		EROVE	-	• .								Washing disc			BBB MHz VB 1.00
DEC			Œ		·								A COMPANY			7
5:02	Ø dB™	dВ	dB/DIV	-		7							Aviant.			371.921   MHz
22:22:02	-40.00	0	10.00 dB		Z	DOD KHZ			<del>,</del>	VIDAVG B			control of the contro			CENTER 3 *RB 1.00
		* HT	10.		SPAN	1				\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\			MANAGE			* RB
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71 548 MHz 09.73 dBm	PLE	SAT EM/		as .			- the Marketine			Z KHZ msec
. 971 54 -109.7 EMS	SAMPLE	180-41/METSAT	20. 653952 00. 653952	2.4.6 3.4.6	R		Maydy-Styleng Ridge			SPAN 1.000 kHz ST 10.00 msec
Special 75 FRQ 375 VIC SYST	JNCOR	JMS 13	20.0	2 de			Andrew Comments and the second			SS
DEC 16, 1998 REOZ Special Frey PLOTIC Ant: Vertical MKR #1 FRQ 375.971 548 MHz -HO.00 -109.73 dBm AEROJET ELECTRONIC SYSTEMS	-50.00 UNCOR	-60.00	-70.00	-80.00	-90.00	-100.0	of words for the state of the s	-120.0	-130.0	MHz
16, 19. EROJET							whythythy who			MHz . BB
_1 1	NE NE			-			=			CJ
(6) 22:31:21 RL -40.00 dBm *ATTEN 0 dB 10.00 dB/DIU	DISPLAY LINE	0.00 dBm		VIDAVG B			Light of house of the second second			CENTER 375.97 *RB 1.00 MHz
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8 MHz	dBm	- L	WEISAT					Appendicular policy of the			KHz msec
1 70eg	-108.84 TEMS	SAMP	18	0653932 00653932	4E 26151/2	No.		appearance of the party process			SPAN 1.000 kHz ST 10.00 msec
B REOZ Graid Trez ROS MKR #1 FRO 624, 925 418 MHz	BONIC SYS	-50.00 UNCOR	7		28	30		Anthon than the properties and the factor of the contract of the contract of the contract of the contract of the	D	Ø	
99	لبا	2	-60.00	-70.00	-80.00	-90.00	-100.0	Approximation of the parties	-120.0	-130.	z M MHz
<u>.</u>	ŧ							A description of the second			25 BBB MHz VB 1.BB
(4) 22:37:12 RL -40.00 dBm	*ATTEN Ø dB 10.00 dB/DIV	ISPLAY LINE	-60.00 dBm		VIDAVG B			the production of the state of			*RB 1.00 MHz
S)A	*	1	0.00		<del></del>			A STATE OF THE STA			₩ *

9 576 MHz	SAMPLE	METSAT	2 2 8	65/17			harder observations			BB MSec
7 DEC 16, 1998 REOZ Jacis/Frez PLOT 1.  Bm And: Vertical MKR #1 FRQ 631. 729 576 MHz  -HQ.000 -107.87 dBm	ļ	4MSU-41/	8/10/105 100 653932 00 028000	4E 26151,			phoromorphy of the phoromorphy of the property of the property of the phoromorphy of the			SPAN 1.000   ST 10.00 ms
998 REOZ Jani 172 MKR #1 FRQ 631. 72 -40.00	LECTRONIC SY -50.00 UNCOR	88	00	00	00	3.8	Mary Mary Marine	9.8	9.8	-
1998 R		-50.00	-70.00	-80.00	00.0g-	-100.0	Market party and a second	-120.0	-130.0	Hz AB MHz
DEC 16	HEROUE						Anny Autoritation			730 000 MHz VB 1.00
(4) 22:42:37 RL -40.00 dBm *ATTEN 0 dB	AY LINE	-60.00 dBm		16 B			destructions of the second			31. MHz
RICAL - LA	10.00 DISP	-60.0		UIDAVG			Solland Adapta			* RB 1.00

Social Frey 1207184 FRO 747 840 973 MH.	- 108,54 dBm	į	1	1331720 -2 EMI	S/N105 PO 653432 Do 02800m	45 26/61/60 Par 3.4.6				Trapporter of the party of the			SPAN 1.000 kHz ST 10.00 msec
DEC 16, 1998 REOZ Jacial Frag	-40.00	REROUET ELECTRONIC SYSTEMS	-50.00		98.89-	-70.00	-80.00	-90.00	-100.0	which the hand the trade of the particular the part	-120.0	-130.0	I BBB MHz VB 1.88 MHz
(4) 22:48:41 RI -40,00 ABm	*ATTEN Ø dB	10.00 dB/DIV		DISPLHY LINE	-64. UU dBm		VIDAVG B			Ministry to be a series of the			*RB 1.00 MHz

Special Fren. FRQ 751.91	-40.00 ELECTRONIC SYSTEMS	-50.00 UNCOR SAMPL	68.88 AMSU-41/METS	-70.00 S/N/05 P.O 653432 Op 028000	80.00 JE 26/67/50	90.00	-120.0	Territory and Company of the Control	-120.0	-130.0	SPAN 1.000 KHz
DEC 16, 1998 <b>Æ602</b> MKR #1	AEROJET ELE	1	3 <u>9</u>	12-	B -			B. B. I. I. The state of the st	1		DO MHZ
2:53:58 2.00 dBm	*HILEN W dB 10.00 dB/UIV	DISPLAY LINE	-60.00 dBm		VIDAVG B			privational property of the pr			CENTER 751.944 000

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<i>PLOT 187</i> Hz		7	<del></del>	<del> </del>			<b>.</b>	<del>-</del>	<del></del>		-
. 6	}	E E			A STATE OF	345					GHz msec
7 17 23		SAMPL	·		Physical Party Control	METS.	39.32	4.6			00.
7. G	LEMS				***	1720-1	0 663	100			STOP 2.040 ST 100
FRQ	\$48	0 8			300	14. 8. 8. 8. 8. 8. 8. 8. 8. 8. 8. 8. 8. 8.	9.07	The state of the s			ST0P
1998 REOZ Sparal Fray. Reng. 1877. MKR #1 FRQ 2.037	-80.00 -1 ELECTRONIC SYSTEMS	-90.00 UNCOR	0	<u> </u>	7	<b>2</b>	0	Ø	Ø	Ø	
B REC	-BB.BB LECTRO	90.0	-100.0	-110.0	120	130.0	-140.0	-150.0	-160.0	-170.0	2
	JET E				A STATE OF THE PARTY OF THE PAR			•			0 KH
DEC 17,	AEROJE1	-			Aproph.						GHZ VB 30.0 kHz
E	<b>D</b>		Z								00
	Ø dB dB∕DIV		3 GHz		G B						2.010 .0 kHz
	ATTEN Ø 10.00 d	MARKER	2.037 2 -123 45		DAUG Menton						ART 30.0
	*AT 10	Æ	1	←-							START *RB 30
				9	- 120 dBm						

188																		1					
PLOT	MHz	dBm							<b>~</b>	4	<b>L</b>				-	1						MHz	3 3 3 5 6
d,		ı		H.E.						1	18.8	EN.	-	- <del>0 {</del>	9		1			<u> </u>	·	N D	ເດ <b>⊆</b>
	35.	119.38		SAMPLE						A STATE OF THE STA	ME	N.	7.32	8	0/2	3.4.6	11					P 500.0	
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	MKR		JIC	UNC (				-									,						
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189	•	_		<del></del>		T				7	<b>†</b>	<b>-</b>	7	· · · I		<del></del>				
		dBm		L L	t à			C					<b>G</b>		Arry Arry				MHz	3 <b>a</b> s
	FRQ 495.4 MHz	123.02	•	SAMP	70	50	0000	151/51	7.0						John House				500.0	33,33
		-	ELECTRONIC SYSTEMS		4MSO-4 133172	Ms	0000	15.26	Par G						April 19 State of the sea of the first factory					S
ME	MKR #1		S S	COR	-}										The state of					
22	五天	2	ON I	NO E		2				3	-		 •							
RE02		-60.00	CTR	0.00		-80.00		90.00		100.0		-110.0	120.0		The second secon	140.0	-150.0			
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DEC 16, 1998			<b>AERO</b> VET	-											Alternative of the second				1	3.00 kHz
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2 <u></u>	<u>.</u>	L L	90.	7. 4. 7 (444)	DISPLAY LINE	140				DAVG					the whitehorther which was			i	SIHRI	*KB 3.00 kHz
(M) 21:53:04	\ \ \	     	16												**			-	သ — (	# KB
										104.4	dBm									

061	<b>)</b>			,													p. 2004			
PLOT		41 dBm		SAMPLE					HATTER MANAGEMENT	METSAT	2 ETK!	A	04							00 GHz 0 msec
707	MKR #1 FRQ 1.224 60 GHz	- H - H	;			-			A A SHANNE HE WAS TO SEE THE SAME OF SECULAR SAME AND ASSESSED AS A SAME OF THE SAME OF TH	4M50-41/1	133/720-	PO 653932	00 028000	Par 34.6				As you do not be the second of		STOP 1.257 00 GHz ST 12.00 msec
METOP	#1 FR(		SYS JI	-90 NO ONCOR			1		SAMMAN SAM	7	-,									STOF
RE02	MKR	- HB . MB	LC INON	90.00 1		-100.2		22 . 23 . 7 . 7	MARINGA,		-13g.g		-140.0		-150.B		-160.0	0 01	9 · 9 / T.	
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DEC 17		1	HEROJE						الماراد والمعادلة		ių nastrių iko , ——	** *** *** *** *** *** *** *** *** ***						Trigging de Bellingen, y - aut à voir - 5 mar r		BO GHZ UB 100 kHz
Э	d dBm		48/11/			6Hz	E E		The second second									4 - 100 100 100 100 100 100 100 100 100 1	····	ì
1 09:52:29	-80.00	*ATTEN Ø dB	DD DD		人下に	22 H 25	8 41 dBm		PATE TOWN		·	-	<b>u spil</b> a i William			T) an annu talanda daga daga daga daga daga daga daga				START 1.217 *RB 100 kHz
		*	7	∑			-118-1	-//2.5 /	_£		··		•			2 v v v v v v v v v v v v v v v v v v v				START *RB 10
								1 3	i										 -	

	1 #1 FRQ 1.571 98 6Hz	ONIC SYSTEMS	-92.00 UNCOR' SAMPLE				which was the most of the second of the seco	1,0	0/4 /43 00 653932 00 0280000	4E-26151/50 Par 3.4.6	THE		STOP 1.614 DB GHz
DEC 17, 1998 REOZ	MKR	AEROJET ELECTRO	-98.88			110.8	BALLER CHOCKER THE WAR HAVE AND	-130.0	B. B. 1 - 1 4 B. B	-150.0	-150.0	-170.0	BB GHz
49	$\sim$	- 🔼		MARKEH 1 571 98 647	-120 45 dBm	-1	MANAGER BUT AND						START 1.565 B

(4) (4) (4) (4) (4)	DEC 17,	DEC 17, 1998 REOZ		METOP	PLOT
RL -80.00 dBm	Ant: Va	rtical M		FRQ 1.51	#1 FRQ 1.589 68 6Hz
ATTEN 0 dB		-80.00		1	114.91 dBm
10.00 dB/DIV	AEROJ	ET ELECTF	30NIC	SYSTEMS	
		-90 DO UNCOR	DUNCO	R	SAMPLE
MARKER			~		
1.589 68 GHz		-100.0			
-114,91 dBm		•  -  -			
		-110.0	2		
The Part of the Part and Part of the Part	WALLE AND CONTRACTOR SERVICE	- 3	LAMPIN WAY	Antimiera de la contraction	SANDARY MANAGEMENT
VIDAVG B		:	0		-120.0
				AM50-4,	/METSAT
		-430.0	<b>Ø</b>	133/7	20-2571
				000	79.32
		-14B.B	0	0000	80000
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				Dar	84.6
					NA NA
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		-150.0	0		
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		-170.0	0		
START 1.565 Ø	BB GHz		S	TOP 1.61	STOP 1.614 00 GHz
88 300 kHz	VB 300	kHz		ST 12	L NO mspc
					!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

4				1.1							·
<i>PLOT 194</i> 6Hz	dBm	[E 7847 5247		1		thereple					GHz msec
1 900	.27.62	SAMP	752	46		April ship					999
<i>eeoz metop plot</i> MKR #1 FRQ 2.051 900 GHz	STEMS	1MSU-	S/N/1 P.O. 655 02/0	De 26		Hatel State of the					STOP 2.055 ST 93.
#1 FRG	11C SY	JNCOR				Approx					STOP
REOZ MKR #	-80.00 ELECTRONIC SYSTEMS	-BB.BB UNCOR	100. 100.	-110.8	-120.0	MANAGE	-140.0	-150.0	-160.0	-170.0	
1998	ì	•	1	1	1	Annahulantheadhraighdhaileann	1		1		Ø kHz
DEC 17, 1998	AEROJET	<u>-</u>				Marchania					B GHz VB 10.0 kHz
E	ΛI		GHz m			April Market					98
3:02: 0.00	VID/85 B	æ	900 2 dB		)G B	watch attract parties of					2.051 3.0 kHz
R R - E	*ATTEN 10.00	MARK	2.051 -127 6	<b>₹</b> -1	UIDAVG	Mary Media					*RB 10
·					126.7	180	_				~

									<i>(</i>								26 F	ebruary 1999
	PLOT 195	6H,	127.99 dBm		SAMPLE	45/341 0-2 EM/		V 00	1/50			Litrate Autotal at A	المعادلة المعادلة المعادلة					DDD GHz D4 msec
`. •	METOP	FRQ 2.054	-127	SYSTEMS	3	1331720	3/11/05	00 0282	1E 2615	12. 8.4		Tall tol Literature Place   Literature A. B. Bartella	Abasha II da II ahili Adam					STOP 2,055 ST 93.
		/ MKR #1	-80.00	ELECTRONIC SYSTEMS	-90,00 UNCOR		-100.0		-110.0		-120.0	A PARAMETER AND ALL AND MALL AND MALL AND AND AND AND AND AND ALL AND		-140.0	-150.0	-160.0	-170.0	
	DEC 17, 1998	And: Vertica		<b>AEROJET</b>	-						A COMMAND OF THE PROPERTY OF T	A TOWN TOWNS AND A CONTRACT OF THE PARTY OF						BB GHZ VB 1B.B kHz
		L -80.0	Z L L	10.00 dB/DIV		HRKER	2.054 221 GHz	128,99 dBm			VIDAVG 8	48m thetrethyladiantivitalist them the						START 2.051 90 *RB 10.0 kHz
		<b>~</b>	*			Σ	വ	1	<del></del> 1		7	48m tak			٠,	<u> </u>		\(\sigma\) \(\pi\) \(\

96,											
042 196 GHz dBm	= 15.AT		A STATE OF THE STA		Harpfart						6Hz msec
702 METOP PLOT MKR #1 FRQ 5.328 3 GHz	SAMEL	32	3.4.6		the property						س _
0 5.3	STEMS	130	22 20	$\left  \cdot \right $	A CARBOLLE						STOP 5,355 ST 337.7
METOP	SYS OR	9.0	12		4-41-11-4						\$101
RE02 MKR #	-BB.BB UNCOR	0	2	8	<u>゚゚</u> ゕ <del>゚ゟ゚ゟヸ゚ゟゟヸヸヸ゚ゖ</del> ゚゚ヸ゚゚゚゚゚゙゙ゖ゚゚゚゚゙゙゙゙゙゙゙゙゙゚゚゚゚゙゚゙゚゙゚゙゚゚゚゚゚゙゚゚゚゚゚゚	<b>S</b>	<b>5</b> 3	0	<b>B</b>	0	
18 <i>REO</i> . MK -80.00	-90.E	-100.0	-110.0	-12B	-	BE 1-	-140.0	-150.0	-160.0	-170.0	7
, 199	_				Specific Association						B kH
DEC 17, 1998	AEROJET				THE STATE OF THE S	•					GHz VB 30.0 kHz
E	>				STATE OF THE PERSON NAMED IN						Ø
10:07:3 -80.00 EN 0 dB	48/DIU	3 GHz 7 dBm		<b>æ</b>	A STATE PARTY						5.254 0 kHz
10 10 10 10 10		5,328 3 -124,67		9000	3						1RT 30.
	1 L	י ט	<b>~</b> →	1.3 W	*	Ţ					* RB
				-123.3	dBm	*					

161				:	26 February 1999
	932 932 51/50 	National Association and the same of the s			355 3 GHz 137.7 msec
#1 FRQ 5.310 7 GHz -123.98 d8m C SYSTEMS COR! SANCO-2120-2 EM	20 639 00 0280 45 2615 181 2.4.	Hydrighter Marke with Market M			STOP 5,35 ST 337
	-100.0	-1-2000 -130.0	-140.0	-150.0	-1 / B . B
EC 17, 1998 REOZ  Ant: Vertes/ -80.00  -90.00  -90.00		Albert Al			GHz UB 30.00 kHz
:31 D dBm , DIV	7 GHz - dBm	Market Control of the	-		5.254 @ C
88 88 88 88 88	5.310 7 -123,92 1	AUIDBUG MUNIMANAMANAMANAMANAMANAMANAMANAMANAMANAMA			START *RB 30.
e.		-/2.5			

198	)										*******				 ····	 			
20T	6Hz	dBm		Ш			AND BUTTON	TSAT	lw=			0						B GHz	msec
	, 785 E	108.61		SAMA				3W/14	20-2	28932	280000	0/197	3.4.6					825 8	10.00
METOP	MKR #1 FRQ 5.785 6	•	ELECTRONIC SYSTEMS			-	A STANFACT	AMSU-	13817 Ms	0.0.60	000	46	Ja.					STOP 5.825 0	ST
<i>y</i>	.R #1		NIC S	UNCOR			The body											S	
RE02	MK	80 B	ECTRO	90.06		-100.0	MA Amenda	-110.0		-120.0			n net	-1140 10 10	-150.0	-160.0	-170.0		
1998				1	:	1	Charleston Control						ì	1	ı	ı	ı		VB 3.00 MHz
DEC 17, 1998 RE02			REROVET	-			After States and States											6Hz	VB 3.6
	dBm		ΛΙ			7	A CONTRACTOR											0 0	
10:11:15	-80.00	N B dB	9		<u>مد</u>	5 G GF	1874 df			VG B					····			ស	. 00 MHz
	RI -	*ATTEN	10.00		MARK	5.78	A TABLE			UIDAUG	1							_	*RB 3
	(	1007	mon																

7199	•			<del></del>	··· ··· .	<b>, -</b>						·		· <del></del>		·		<b></b>	<del></del>		
1070	5	dBm		<u> </u> 			なるからいないからいかくかいなるからいろうのできないできない		SAT	JM2											6Hz msec
	E C	1E		SAMPL	<b></b> -	<del></del> -	\ <u>``</u>		METSAI	N	1 1	2	2		1						i
	#1 FRQ 5.793 6	177		SA		•	A WAS		1	-02	50/1	8000	151								STOP 5.825 0 ST 10.00
da	L.	1	EM3			† ·	7		1M-USM	18312	21	0	7		*/	•					2
METOP	FRO		181	1			3		486.	15	E	00	All								T 0 P S
7	<del></del>		တ	OR			Py-War				·				<del></del>		-	-			လ
۸١	<del>**</del>		NIC	ON C			Always.	- -									ļ				
REOZ	MKR	00	r R O	00		2	*	0.		0		8		. 0		B		8		<u> </u>	
Ø	_	80.00	<u>د</u> ر.	-90. 00 UNCOR		-100.0		-110.0		-120.0		-130.0		-14B.B		150.0		-160.0	***************************************	-170.0	
DEC 17, 1998	in	1	H	1	-	ı	ANAL S	1		I		1		1		1		ī		1	GHz VB 3.00 MHz
<del>-</del> -1	ert		UET				3					<u> </u>			-				1		20
17	F: V		AE'ROVET	-	٠.		1														Э.
EC	4m7		H				1														GHz UB
	1						A TAN	•	1												8
54	qB					7	S. S.			~											5   12
47:	00	P	1781			6Hz	TV4			<u> </u>											5.450 MHz
88:	80.	D N					1												-		7
79 08:47:54		11	2		3HK	5.793 E	からからなるというというという			VIDAVG											START 5.45 *RB 3.00 MHz
		(T  *	10.00 dB/DIV		Σ	Ŋ	<b>1 2 3 3 3 3 3 3 3 3 3 3</b>	<del></del> -		>				<u> </u>							S X
	1	-00-																			

200					W.						Repor 26 Feb	t 11411 oruary 1999
PLOT	•	E 00 7.7	H.E.	1848	200		att de l'attent					Ø GHz msec
. N	1.5	. KB.	1 70	NOS- NOS-	62		Awarahala					P 2.000
1-2 GHz	#1 FRQ	-SW.WW ELECTRONIC SYSTEMS	OR JUSO	N/S	011		APL BALL SPARE					\$10P \$1
RE02	MKR #1	RONIC	GB. BB UNCOR		370	30		<b>S</b>	0	0	0	
1998 6		ELECTRO	-60	-70.	27-BB .BB	-90.00	-100.0	-110	-120.0	-130.0	-140.0	MHz
		<b>HEROJET</b>		7 HOUIT	E gorvace		\$ 100 pt					3.00 M
DEC 17,				REDZ	METOPESON REDZ LIMI		A Part of the Control					GHz UB
••	00 d8m	B/01V		,,,,		<b>&amp;</b>	Total Andrew					. BBB MHz
(4) 10:	50.00 TTEN 0	10.00 dB/DIV	MARKER	<u> </u>	CB CB1	VIDAVG	Appete Assessment					*RB 3.00
	Œ o	1.0	X	<b> </b>	1	5	1					* BB

/02					<del></del>			. ;		<del></del>	1
PLO7	dBm dBm	L		rsAr MI	TI PLE BREEZE TI, MANAGE	201	relatively of the property of the party of t				GH <sub>Z</sub> msec
ה מח	-106.41 dBm	SAMP		41/ME	3932 80000	5.4.6	And the second				P 2.000 GHz 13.92 msec
	7 - X		1	4MSU-4 133182	100	16 2 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	AND				STOP ST 1
‡ 2 2	# \\ \tau \)	COR		A.	60		4 A C 4 A C				
REOZ MV	HO. BB	-50.00 UNCOR	00	70.00	88.88	00	100 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	B. B	120.0	9.8	
1998	-H0-	20-	-60.00	-70	-82	-90.00	-100.0	-116	126	-130.0	1Hz
7, 19	AFRONET		PARSE day				edpolusional				3.00 MHz
DEC 17,	AFR		200				April 19 Apr				Hz UB 3
	_		\$   E	The state of the s			Hagharatududh				9
8:53:	D DE		GHz 347-dB		B 9		alada porta				1.B
	*ATTEN Ø dB	ABKE	1.500 GHz		VIDAVG B		Haylow and what had been and the second of t				START 1.000 *RB 3.00 MHz
	*					<u> </u>	1	1			*

10:21:26 DEC 17, 1998 ≥€0:	1.00 dBm MKR #1 FRQ 3.000	0 dB - 50.00	dB/DIV REROVET ELECTRONIC SYSTEMS	 R METSAT EDUNALENT PRESS / 111.7	- CH2 —	03 dBm	11m17 202 800 100 100 100 100 100 100 100 100 100	DAVG B 90.00	- Proposition of a financial	-110.0 smsv-41/mET3AJ	1331720	-120.0	000000000	-130 0 45 26131/50	Par 8.4.6	-140. A	18T 2.000 GHz STOP 4.000 GH2	
10:5	RL -50.	*ATTEN 0	10.00 di	 MARKER	1			VIDAVG E	And the second second						<del></del>		<b>JRT</b>	ממ ני ממי

207 203 GH,		· · · · · · · · · · · · · · · · · · ·									
<b>207</b>	4Bm		75AT	0	0	A STATE OF THE PARTY OF THE PAR					GHZ
<b>РЕО2</b> МКВ #1 FRO F DAY	107.41	SAMPLE	2-02	53952	3.4.6	WHO A BLAND	2		***		
FRO	STEMS	717	1331	200	A Ca	AN VAN VAN		5			STOP 4.80 ST 40.80
KR #1	AEROVET ELECTRONIC SYSTEMS	EBUINALENT REDZ LIMIT	<b>T</b>			Control of the Contro					
REO2	CTRON	). DD U	-70.00	-80.00	-90.00	D. D.	-110.0	-120.0	-130.0	0.0	
1998	1	- 5 B	-77	08-	06-	THAINTON YAMMINING	- 1	- 12	(F)	-140.0	MHz
DEC 17, 1998	ROJE		<u> </u>	1		Afrew writed					3.00 MHz
DEC	AE	METOP				Mind the Angles and the				j	H <sub>z</sub> UB
:34   dBm	بالمسطاط	   -	E								0
09:10:34 -50.00 dE	} !		9 GHz 41 dB		16 B	Minnerhal					2.8 00 MH
[69] [4]	*ATTEN 10.00	MARKER	3.000 -107.4	<del>-  </del>	VIDAVG	the terminal and the state of t		,			*RB 3.00 MHz
	L <u>S</u>				L	5		-L			*

204	•										1												
PLOT	GHz	dB™		إسا			EN1			•			-									6Hz	msec
	. BBB	19. ØZ		SAMPLE			10-2 C	288	200	101/00	Y	1	STATE OF									8.000 8	80.00
	MKR #1 FRQ 5.000	<u> </u>	TEMS				M50-4 13817	8/N/05 00 663932	0 20000	16 20101, 17 53.4.10		f	-									_	ST BE
	# 1		\$ 200	<u>~</u>			P	16.6	2]	2.64			1				_				-	ဟ	
N	MKR		3 3 IN	ONCO	7 (11			-					**************************************										
RE02		-50.00	ELECTRONIC SYSTEMS	3.00	r RED	BB . B4-		-80.00		20.00 00.00		-100.0	STATE OF THE PARTY	-110.0		-120.0		130.0		140.0			-
1998		-51		į	/ALEX	1		<u> </u>		ñ_		-	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	-	<del></del>	-		<u>=</u>	•	-			3.00 MHz
			<b>JET</b>		EQ1/	4							1						-				00
DEC 17,			<b>AEROJET</b>	·	ETOP E	ſ							The party				•						VB 3.
DE					NA	 			T		<b></b> .											6Hz	<u></u>
6	dBm		<b>∩</b> I			i İ	E						4-5-4									BBB.	
10:24:19	00.00	B dB	d dB/DIV		œ	-6H2	D2 dBm			E E			المهاد المالية والمراكب والمالية والمالية			<i>≟</i> = :							DO MHz
(A) 10:24:	R[ -5	* ATTEN	10.00		MARKER	5.000		<b>~</b> -1		VIDHVG			SHOW!										*RB 3.00
	<sub></sub> ر	*		L.,	,			l				<u> </u>	_\$			l		l				-	*

PLOTZOS	<b>)</b>			.—.						1						26 Feb	ruary 1999
PL	5	16.88 dBm		SHMPLE		 	/WETSAT	106	24151/50	3.4.6 MM	<b>(</b> –	いかけれていれてきないというとうないかくかんないないかられている					BD. BD msec
	MKR #1 FRQ 6.000	7 -	SYSTEMS	0R			1M50-41	8/N/08 8/N/08 80 653	00000 45 24	Par		Transport of the half the safety					ST0P ST 8
1998 2502	MKR	-50.00	IET ELECTRONIC SYSTEMS	ì		一年,中一		-80.00	-98.88		-100.0	<b>\$</b>	-110.0	-120.0	-138.8	-140.0	AB MHz
5 DEC 17,	dBm		U AEROVET		METOP ER	!						And when I want to the second	i				H. BBB GHz MHz VB 3. BB
[76] 09:01:4	RL -50.00 d	*ATTEN Ø dB	10.00 dB/DI		MARKER	6. UND U SHZ	-106 88 dBm		VIDAVG B			Contractor of the constitution of the second					* START 4.00

Report 11411
26 February 1999

202				R 26	eport 11411 3 February 1999
	2/4/7 2/4/7 4/4/4/ ME1547	9/11/105 10.653932 00.0250000 -15.261/50 -14.261/50	The physical design of the state of the stat		STOP 12.000 GHz ST 80.00 msec
DEC 17, 1998 REOZ MKR -50.00 AEROJET ELECTRONIC -60.001	METOP EQUIVALABLE OR C.	-90.00	-110.0	-130.0	-140.0 B 3.00 MHz
(%) 10:29:04 RL -50.00 dBm *ATTEN 0 dB 10.00 dB/DIV	MARKER -105 88 d8m		The state of the s		*RB 3.00 MHz

207									Report 26 Feb	t 11411 oruary 1999
FRQ 10.000 GHz -107.41 dBm	SAMPLE		AMSU-41/METSAT 1831720-2 EMI 8/4 105	00 63952 00 0280000 4E 26151/60	MANNEWS HANDERS SANDERS SANDER	-				STOP 12.000 GHz ST 80.00 msec
(4) 09:07:18 DEC 17, 1998 REOZ RI -50.00 dBm Art: Verbeal MKR #1 *ATTEN 0 dB -50.00 10.00 dB/DIV AEROJET ELECTRONIC SY		-107 41 dBm METOP EQUIVALENT REDZ LINIT	1 - 80.00	UIDAVG B	May water trade of the first party and the first of the f	-110.0	-120.0	-130.0	B.841-	START B. BB GHz *RB 3. BB MHz VB 3. BB MHz

 $\mathfrak{E}$ 

60										(n							Report 26 Feb	t 11411 oruary 1999
PLOT 209	- 1	dBm /		PLE				ETSAT EMI	-	0		And Dark Park 1 12 Age						DDD GHz DD msec
1	13.00	-105.47		SAMP				720-2	28653	280000	34.6	Jake Contract of the Contract						140
: :	FRO		YSTEN			LIMIT		1881	20.6	84	Ar	ANTH-INTER						STOP
8	MKR #1 FRQ 13.000	Ø	S JINO	-50.00 UNCOR		MEDZ		Ø			0	- Allenger	Z	Ø		 SJ	0	
B REOZ		-50.00	LECTP	-50.0		-70.00 416.00		-80.00	- 90 PD		-100		-110.0	-120.	A 2	2 2 	-140.0	Hz
1998	rtical			:		EDUIVALE	-					whenthemen						3.00 MHz
DEC 17	Ant: Ve	1	AEROVET	-		METOP			A. The same of the			anthroughous furni						}
55:0:	-50.00 dBm	48	AB/DIV			6Hz						frateleter trafact				<del></del>		12.000 GHz A MHz UB
5] 89:28:52	-50.6	1	. ~	i	ARKER	ì	-126147		HITDAILG			الماسية والمراجرة					•	START *RB 3.00
	ÌŒ	<b>∀</b>		4	Σ		11		j	> <u>.</u>		\$	•					<b>∞</b> π *

012	<b>)</b>			<del></del>			· · · · · · · · · · · · · · · · · · ·		<b>.</b>	_		-					1				
PLOT 210	1 GHz	dBm		L L							Stade of the	METSAT	[ME			1	V			6Hz	msec
	. B. 000	05.08		SAMP							A PARTY	41/11/	720-2	1932	00000	4.6	THE STATE OF THE S			18.000	BB. BB
	FRQ 1	1	SILMS				1				Town or	Amsu.	1331	60 65	00 04 4 AA	Par 3		2	\	1	ST
<b>6</b> 1	MKR #1 FRQ 15.000 GHz	0	VIC SY	-EB. BB UNCOR		BEON ,					Haykrama									S	
REOZ	Σ	-50.00	EC I KU		-70 00				-90.00		with the walk with	-110.0	  - 	-120.0		-130.0		-140.0			
1998		_	- 1	1	4-	181106	- BB. BB		1		A drawning	1		-		1		1			J MHz
DEC 17,		ר מ די ה מ די	NENUVE	- ·.		METOP					- Andrews										00 E 90
	d8m		>			T 1			•		population (								- 1	. BBB GHz	>
	d. 00			~	Z H9 E	38- dBn			œ		Sept of the					<del></del>				14.0	J. UU MHZ
	_	*ATTEN	70.00	MORKER	16. abi	185,88-d8m	<del></del> 1		VIDHWG		Left freeholders			<del></del>			-		1		*KB 3.0
J	L	*			1	_[_]	<u> </u>	_1			3							<u> </u>		,, <u>,</u>	*

<i>20121</i> . 000 GHz	10.14 dBm	SAMPLE				A A A A A A A A A A A A A A A A A A A	/MET	32	3.4.6		18.000 GHz
#1 FRQ 16.000			The state of the s	2.4.1.2		WAYN WAYNE JANJANE L	4MSU-4 1897720	3/4105 Po 653432 Op 028000	7		STOP 18
1338 <b>2602</b> MKR #1		-60.00 UNCOR	-70.00	Eguralent proz	-90.00	-100.0	0.0	-120.0	-130.0	-140.8	THW DD E
UEC 17,	AEROVET	<del> </del>		METOR		-					6Hz
AL -50.00 dBm	*ATTEN Ø dB 10.00 dB/DIV	MARKER	16.000 GHZ		VIDAVG B	A to the about 11 and a fee mile to					START 14,000

# TEST DATA SHEET 3(Sheet 1 of 3)

	3.4.7: RE04 Test 22 Sep 98											
Test S	Setup Verified: _	- Ver	JZ	auc	(ABSU 6	1	2/21/98					
					ature			_				
<u>3.4.7.3</u>	3.1 Step 2: Tes	t Equipm										
	ltem		Mar	nufacturer	Model/ Part No.		Aerojet nventory No.	Calibration Date	Calibration Due Date			
<u> </u>								,	7.			
G	AUSSME	TER	F. V	V.BELL	9500 BEL-MOX-		300690	9/14/98	-9/14/00			
MAG	SNETIC FIELD	PROBE	Foh	1. BELL	99-250		300642	4/27/98	4/27/99			
<b>L</b>			<u> </u>									
3.4.7.3	3.2 Step 3: Mag	gnetic Fie	eld Em	issions								
Step	Direction*	Measu		Required	Mag fie	eld w	ithin limits?	Comm	nents/			
		mG			Yes		No	Observ	ations			
/	0 degrees	-0.01		See 3.4.7.	2 /							
2	30 degrees	+0.29	3	See 3.4.7.	2 /							
3	60 degrees	+0,13		See 3.4.7.	2 /							
4	90 degrees	-0.30	2	See 3.4.7.								
5	120 degrees	-0.60	)	See 3.4.7.	2 /			. <u> </u>				
6	150 degrees	-0,84	4	See 3.4.7.	2 /							
7	180 degrees	-0,8	8	See 3.4.7.	2 /							
8	210 degrees	-0.7	フ	See 3.4.7.	2 /							
.9	240 degrees	-0.6	7	See 3.4.7.	2 /							
10	270 degrees	-0,5	1	See 3.4.7.	2 /							
11	300 degrees	-0.2	5	See 3.4.7.				•				
12	330 degrees	- 0.0	6	See 3.4.7.2	2 /							
NOTE:		r observa	itions,	etc.) to this o		tos, p	orintouts, plots	i, test log, addit	ional			
							_ <u>Signa</u>	ture/Date				
Unit/	AMSU-1	A 1/1	MET	TSAT_	Engir	neer:	Willing	4. Parka /1.	2/21/98			
Serial N	10. 105	•			Quali	ty Co	ontrol: (7A)	12/2/198				
Shop O	Shop Order 65-3932 Oper 0280000 Customer Representative: 12-2											

## TEST DATA SHEET 3 (Sheet 2 of 3)

3.4.7: RE04 Test (Cont)

	3.4.7: RE04 Test (Cont)												
	Test S	etup Verified:	- I	اکریں Signatur		1/21/95	<u>.</u> .						
	3.4.7.3	.2 Step 9 (10 ir	nches above): I	Magnetic Field E	Emissions								
ŀ	Step	Direction*	Measured	Required		rithin limits?	Comments/						
			m G		Yes	No	Observations	_					
	1	0 degrees	+0.53	See 3.4.7.2	/								
	2	30 degrees	+0.14	See 3.4.7.2	/			_					
	3	60 degrees	+ 0,il	See 3.4.7.2									
	4/	90 degrees	- 0,20	See 3.4.7.2				_					
	5-	120 degrees	- 0.43	See 3.4.7.2									
	6	150 degrees	-0.53	See 3.4.7.2	/								
	7	180 degrees	-0.24	See 3.4.7.2									
	8	210 degrees	- 0.23	See 3.4.7.2									
•	- - 3	240 degrees	-0.12	See 3.4.7.2									
1	10	270 degrees	+0.06	See 3.4.7.2									
	<i>i1</i>	300 degrees	+0.14	See 3.4.7.2	/								
	12	330 degrees	+0.15	See 3.4.7.2	V								

Attach all backup data generated during the test (photos, printouts, plots, test log, additional comments or observations, etc.) to this data sheet. NOTE:

### TEST DATA SHEET 3 (Sheet 3 of 3) 3.4.7: RE04 Test (Cont)

12/21/98

AE-26151/5D 22 Sep 98

	etup Verified:		Signature	1 2/211	71							
	.2 Step 9 (10 in	below Wat fiz	/2//98 Magnetic Field E	missions								
3.4.7.3 Step	Direction*	Measured	Required	Mag field wi	thin limits?	Comments/						
Oicp		m G	•	Yes	. No	Observations						
	0 degrees	- 0.05	See 3.4.7.2	V.								
2	30 degrees	-0,10	See 3.4.7.2	/								
3	60 degrees	- 0.18	See 3.4.7.2	<b>V</b>								
4	90 degrees	- 0,35	See 3.4.7.2	V.		·						
5	120 degrees	-0.69	See 3.4.7.2									
6	150 degrees	- 0,74	See 3.4.7.2									
7	180 degrees	- 0.79	See 3.4.7.2									
8	210 degrees	-0.83	See 3.4.7.2	/								
9	240 degrees	- 0.82	See 3.4.7.2									
10	270 degrees	- 0.76	See 3.4.7.2	/								
1/	300 degrees	-0.68	See 3.4.7.2	/								
12	330 degrees		See 3.4.7.2	/	·							
NOT	or observatio	ckup data gene ons, etc.) to this astrument conn	Uata Silect.	test (photos, p	printouts, plots	s, test log, additional comments						
	-					-						
Unit	Unit AMSU-AI METSAT Engineer: Willim H. Parker /12/21/98											
1	al No	5		Quality	•	12/21/90						
Shop	Shop Order 653 Oper 028000 Customer Representative: 12-22-98											

#### TEST DATA SHEET 4 (Sheet 1 of 4) 3.4.8: CS01/CS02 Test

Test Setup Verified:	Kan hance Sign	nature	9.9	· ·	
3.4.8.3.1 Step 1: Test Equip	·				
Item	Manufacturer	Model/ Part No.	Aerojet Inventory No.	Calibration Date	Calibration Due Date
Function Generator	HPI	3325 A	46560	10-6-98	2-6-00
Oscilloscope	TeL	705380	200084	5-29-97	2-24-99
Amplifier	Melntosh	MC 2205	45071	NOG	NOG
Transformer	Solor	6220-14	4502 HI	CNR	CNR
					· · · · · · · · · · · · · · · · · · ·

3.4.8.3.2: Susceptibility to Injected Electromagnetic Energy on Power Leads, 30 Hz to 150 kHz

Frequency Range	Test Level	Signal Type or	Lin	nit Fac	tor*	Spec Limit Criteria	Comments/ Observations
	(Volts) ρ-ρ	Waveform	ST	EL	SL	(Volts)	
30-300 Hz	0.3	SINE				0.3	PASS
0.3 - 3.0 KHz	0.3	SINE			1	0.3	PA55
3.0 - 30 KHZ	0.3	SINE			<b>'</b>	0.3	PASS
30-150 KHZ	0.3	SINE				0,3	PAS5
					İ		

<sup>\*</sup> ST = Susceptibility Threshold, EL = Equipment Limit, SL = Specification Limit

NOTE: Attach all backup data generated during the test (photos, printouts, plots, test logs, additional comments or observations, etc.) to this data sheet.

<u>.</u>	Signature/Date
Unit_AMSU-AI/METSAT	Engineer: Walka Of Porke 12/11/98
Serial No	Quality Control: Catellan Handle 194/19
Thop Order 653932 Oper 0280000	Customer Representative: 12-14-18

- AE-3615 51

#### TEST DATA SHEET 4 (Sheet 2 of 4) 3.4.8: CS01/CS02 Test (Cont)

Frequency	Test Level	Signal Type or	Lin	nit Fact	or*	Spec Limit Criteria	Comments/ Observations
Range	(Volts)	Waveform	ST	EL	SL	(Volts) 🗸 🗸	
7	1:-9	SINE				0,3	PASS
30-300 HZ	<u>c.3</u>					0,3	PASS
0.5-3,0K#2		SINE				0,5	FASS
3.0 -30/HZ	0,3	SINE	<u> </u>	ļ			
30 -150/2	0.3	SINE				0.3	255
33 /3							
		<del> </del>	<del> </del>	<del>                                     </del>			

+28V Pulse Load Bus Frequency Range	Test Level	Signal Type or	Lim	nit Fact		Spec Limit Criteria	Comments/ Observations
nange	(Volts)	Waveform	ST	EL	SL	(Volts), 2-0	Pane
74 70047	0.1	SINE			~	0.4	PASS .
30 - 300HZ		SINE			i/	0.4	PRSS
0.3-3,0KHZ	0.4		<b></b>			0.4	F.735
3,0-30KHZ	0.4	SINE				0.4	PASS
30 - 150KH7	0.4	SINE	<u> </u>		-	0, /	
					<u> </u>	<del></del>	<del></del>

28V Pulse Load Bus Frequency Range	Retum Test Level	Signal Type or		nit Fact		Spec Limit Criteria	Comments/ Observations
	(Volts)	Waveform	ST	EL	SL	(Volts)	040 -
32-300#2	6.4°-1	SINE	İ		V	0.4	PASS
					V	0,9	PASS
0.3-3.0K47		SINE			1	0.4	PASS
3. c-30KHZ	0,4	SINE					PASS
30 - 150 KHZ	0.4	SINE			V	0.4	17733
	ļ	<u> </u>		-			
					<u> </u>		

<sup>\*</sup> ST = Susceptibility Threshold, EL = Equipment Limit, SL = Specification Limit

#### TEST DATA SHEET 4 (Sheet 3 of 4) 3.4.8: CS01/CS02 Test (Cont)

Frequency Range	Test Level	Signal Type or	Lin	nit Fac	tor*	Spec Limit Criteria	Comments/ Observations
<del>-</del>	(Volts)	Waveform	ST	EL	SL	(Volts), ···	
30 - 300Hz	0.32	SINE			/	0.3	
13-3,0KH2	0.3.2	SINE				0.3	
,0 -30KHZ	0.52	SINE			/	0.3	
0 - 150KHZ	0.34	SWE			/	0,3	
6 - 13 - 11.	0.34	SINE	<del> </del> -		-	0,0	

28V Analog Telemetry Bus Return

Frequency Range	Test Level	Signal Type or	Lin	nit Fact	tor*	Spec Limit Criteria	Comments/ Observations
, i.a.i.g.	(Volts)	Waveform	ST	EL	SL	(Volts) - P	
30-300H2	0.31	SNE			~	0.3	
0.3-3,0KHZ	0.32	SINE				0.3	
3.0-30KH7	0.32	SINE			~	0,3	
30-150KM7	0.34	5/NiE-			V	0.3	
		1					

+10V Interface Bus

Frequency Range	Test Level	Signal Type or	Lin	nit Fact	or*	Spec Limit Criteria	Comments/ Observations
	ر(Volts)	Waveform	ST	EL	SL	(Volts) $\rho$ - $\rho$	
30-300H7	0.12	S/NE			~	0,1	
0.3-3.0KHZ	0,12	SINE			V	0.1	
3.0 - 30K17	0.13	SINE		-	/	0.1	
30-15CKHZ	0.14	SINSE			١	o, i	Market Market Control of the Control

<sup>\*</sup>ST = Susceptibility Threshold, EL = Equipment Limit, SL = Specification Limit

# TEST DATA SHEET 4 (Sheet 4 of 4) 3.4.8: CS01/CS02 Test (Cont)

AE-26151 5T-22 Sep 98

V Interface Bus Re Frequency Range	Test Level	Signal Type or	Lin	nit Fact	tor*	Spec Limit Criteria	Comments/ Observations
	(Volts)		ST	EL	SL	(Volts) p-p	<del></del>
30-300H+	0,11	SINE			V	0.1	
0,3-3,0KHZ	0,12	SINE			V	C. i	•
3.0-30KHZ	0.13	SME			<b>'</b>	0.1	
30-150 KHZ	0,14	SINE			V	0.1	

<sup>\*</sup> ST = Susceptibility Threshold, EL = Equipment Limit, SL = Specification Limit

#### TEST DATA SHEET 5 (Sheet 1 of 2) 3.4.8: CS02 Test (CM)

est Setup Verified: _		K, Khou	nature .		<del>_</del> ·	
3.4.8.3.1 Step 1: Tes	t Equipme	ent Log	·			ı
Item		Manufacturer	Model/ Part No.	Aerojet Inventory No.	Calibration Date	Calibration Due Date
LISN		NASA	NIA	NIA	NIA	NIA
Current Probe		AIL TECH	91550-28	L-509571	4-23-97	1
O'Scope		TEKTronix	TO\$380	C200084	5-24-97	2-24-99
Plotter		HP	7470A	57707	NIA	NIA
EMC Analyze	٤_	HP	8591EM	C200229	1-16-98	2-6-00
Function Ginl	rator	HP	HP 33 25A	46560		
Swept signal 6	in-	HP	83630B	[200202	01-15-98	01-15-99
Power Amplific	n	Eator	5001 5020B	R300637 46126	4-13-99	NDG
+28V Main Powe Frequency Range	Test Level	Signal Type or Waveform	Limit Factor*	Criteria		mments/ ervations
100-500 KHZ	(Volts) صر-م	Sine	SI EL SI	0.3		
100-3000	. 34				•	
			,			
500=1000HH	.34	Sine	V	0.3		
500= 1000 HH. 1-5 MHZ	.34	Sine Sine	, , , , , , , , , , , , , , , , , , ,	0.3		
500=1000 HHZ 1-5MHZ 5-10 MHZ	.34	Sine Sine SINE		0.3		
500=1000 HHZ 1-5MHZ 5-10 MHZ 10-20 MHZ	.34 .35 0.32	Sine Sine SINE SINE		0.3		
500=1000HH 1-5MHZ 5-10 MHZ 10-20 MHZ 20-50MHZ	.34 .35 0.32 0.34	Sine Sine Sine Sine Sine		0.3		
500 = 1000 HHZ  1 - 5 MHZ  5 - 10 MHZ  10 - 20 MHZ  20 - 50 MHZ  ST = Susceptibility  NOTE: Attach all b	.34 .35 0.32 0.34 0.35 Threshold	Sine Sine Sine Sine Sine	nt Limit, SL = Speng the test (photo	0.3 0.3 0.3 0.3 0.3 ecification Limit	ts, test logs, ad	lditional
500 = 1000 HHZ  1 - 5 MHZ  5 - 10 MHZ  10 - 20 MHZ  20 - 50 MHZ  ST = Susceptibility  NOTE: Attach all b	0.34 0.34 0.35 Threshold ackup dator observing	Sine  SINE  SINE  SINE  SINE  A, EL = Equipment a generated during ations, etc.) to this	nt Limit, SL = Speng the test (photos data sheet.	0.3 0.3 0.3 0.3 0.3 ecification Limit		Iditional

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## TEST DATA SHEET 5 (Sheet 2 of 2) 3.4.8: CS02 Test, (CM) (Cont)

+28V Pulse Load Bu	us Return				· . 1		
Frequency Range	Test Level	Signal Type or	Lin	nit Fac	tor*	Spec Limit • Criteria	Comments/ Observations
	(Volts)	Waveform	ST	EL	SL	(Volts)	
100 - 500KHZ	C. 75	SINE			/	0.4	
SUO-IDOOKHE	0.43	SINE				0.4	
1 -5 mHz	0,43	5/20 =	-		~	0,4	
5 - 10 MHZ	0.43	51NE			/	0,9	
10 - 20 MHZ	0.44	SINE			<b>V</b>	0.4	
20-50 M47	0,44	SINE				0.4	

+28V Analog Telemetry Bus Return

Frequency Range	Test Level	Signal Type or	Lin	nit Fac	tor*	Spec Limit Criteria	Comments/ Observations	
	(Volts)	Waveform	ST	EL	SL	(Volts) ج-م		
100-500KHZ	<i>۾-۾</i> 2 <i>.3</i> 3	SINE			/	0,3		
500 - 1000KHZ	0,33	SINE			<b>✓</b>	0.3		
1-5 mHz	0,33	SINE				C. 3		
5 - 10 mx 2	0,33	SINE			1	0,3		
10-20MHZ	<i>0.33</i>	SINE			V	0.3		
20-50MHZ	0,33	SINE			V	0,3		
						0.3		

+10V Interface Bus Return

Frequency Range	Test Level	Signal Type or	Lin	nit Fact	or"	Spec Limit Criteria	Comments/ Observations
	(Volts)	Waveform	ST	EL	SL	(Volts) <sub>↑</sub> - ┍	
100 - 500KHZ	0.13	SINE			>	0.1	
500-1000kHz	0.13	SINE				0.1	
1-5 MHZ	0.12	SINE			\	0.1	
5-10MH7	0.13	SINE			<b>V</b>	0.1	
10-20MH=	0,14	5/NE				0.1	
20 - SOMY=	0.13	SINE				0.1	

<sup>\*</sup> ST = Susceptibility Threshold, EL = Equipment Limit, SL = Specification Limit

#### TEST DATA SHEET 6 (Sheet 1 of 2) 3.4.9: CS06 Test

r =			<del>(1)</del>		<u> </u>	<del></del>	7-11-1-1			
Test Setup Verified	1:	42	Marie			2/22	198			
			•	nature	•					
3.4.9.3.1 Step 3: T	est Equipme									
Item			lanufacturer		del/ t No.		Aerojet entory No.	C	alibration Date	Calibration Due Date
25 Pin Brook	rod too	A	evoiet	2K13	58704-	743	-5910-08		LNR	CNR
Feed Thru C	apacitor	2	olar				3641th 4	CNR		CNR
(4) Feed Thro Co	pacitor	5	alvar			1	203650thru 3		NR	CNR
Spike Gene	erator	20	olar	7054	1-1	461	46134-3		DG	NDG
O'Soape		TeK		77)S-:	380			24.97	2-29-99	
								i		
			_							
3.4.9.3.2: Susceptil	bility to Injec	ted	Transients on	Power I	Leads					
+28V Main Pow							-			
Pulse Amplitude	Signal Ty	pe	Test	Lir	nit Fact	or*	Spec Lin	nit	Cor	nments/
and Polarity	or		Level				Criteria		•	ervations
10V, Positive	Waveform See Figure			ST	EL	SL		+10V		
12V, Negative	See Figure		+ 10V	<del> </del>						
124, Negative	See Figure	9	-12.4V	<del> </del>	$\vdash$	1/	-121	-/20		
			<u> </u>	1			<u> </u>			
+28V Analog Teleme				·	·					
Pulse Amplitude and Polarity	Signal Typ	pe	Test Level	Lin	nit Facto	or"	r* Spec Lim Criteria			nments/
•	Waveform			ST	EL	SL	Ontella	l	Obse	ervations
10V, Positive	See Figure	9	+10.2V			/	+10V			
12V, Negative	See Figure	9	-12.4 V				-12V			<del>-</del>
				<u></u>	L					
* ST = Susceptibility	Threshold, E	EL =	Equipment Li	mit SI	- Spec	ificatio	n Limit			
•			-4-bo	, OL	- Opec	meane	ar Carat			
										•
1 44 C 11	11/		_				<u>Signat</u>	ure/	<u>Date</u>	
Unit AMSU -	HI IME	7	5AT		Engine	er. W.1	ling I Park	en /	12/22.	198
Serial No	-				Quality		(7A)	10	MIN -M	12/22/60
nop Order 653			4 > 64 0 M						an legen	/ / //
Hoh Otder 633	/ 2_Op	er_	280000	ر 	Custom	er Re	oresentative	e: <u>©</u>		<u>6€ 53 28</u> —
								_		

#### TEST DATA SHEET 6 (Sheet 2 of 2) 3.4.9: CS06 Test (Cont)

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Pulse Amplitude and Polarity	Signal Type or	Test Level	Lin	nit Fac	tor"	Spec Limit Criteria	Comments/ Observations
	Waveform		ST	EL	SL		
8V, Positive	See Figure 9	+8.2V			1	+8V	
13V, Negative	See Figure 9	-13.2V			1	- 13 V	

•	+	10	V	In	ter	face	₽B	us	

Pulse Amplitude and Polarity	Signal Type or	Test Level	Limit Factor*		Spec Limit Criteria	Comments/ Observations	
MAP 12/27/28	Waveform		ST	EL	SL	11812/18	
10V. Positive	See Figure 9	+1.1V			1	T10V+1V	
IV 127, Negative	See Figure 9	-1./V			1	-12V -1V	
1 27 /25 /2 WAYA						WAP 12/22/78	1

\* ST = Susceptibility Threshold, EL = Equipment Limit, SL = Specification Limit

12/21/93

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# TEST DATA SHEET 7 (Sheet 7 05/2) 7 12/21/98 3.4.10: RS03 Test

15 12-21-98 Test Setup Verified: \_ 3.4.10.3.2 Step 1: Test Equipment Log Calibration Calibration Aerojet Model/ Manufacturer Item Due Date Date Part No. Inventory No. 10MHZ-26,56Ht 1/15/99 1/15/98 83630B H-P C200202 SWEPT SIGNAL GENCRATUR SPECTRUM ANALYZER 11/12/97 H-P C200064 11/12/98 70004A H-P PLOTTER N/A 7470A 57707 NA VZL6941 KICDF N/A AC0047566 N/A 1-2GHZ TWTA VARIAN VZ56951 46957 NA N/A. KZCDF 2-46HZ TWTA VARIAN V7C691 NA 47517 NA VARIAN 4-8 GHZ TWTA VZM6991 8/19/98 8/19/99 R 300670 8-18GHZ TWTA VARIAN K3AD 46134-6 N/A RIDGED GUIDE HARN ANTENNA 960001 N/A EATON RIDGED GUIDE MIRN 10/2/99 10/21/98 ELECTROME TRICS 1508357 RGA-18C ANTENNA 2/21/98 2/21/99 PULSE GENERATOR H-P 8114 A C200291 Attach all backup data generated during the test (photos, printouts, plots, test logs, additional NOTE: comments or observations, etc.) to this data sheet. Unit AMSU-41 METSAT Engineer: Quality Control: (72) 251/98 Jhop Order <u>653932</u> Oper <u>0280000</u> Customer Representative: \_

22 Sep 4



# TEST DATA SHEET 7 (Sheet 2 of 2) Alla / 18 3.4.10: RS03 Test (Cont)

Test Level	Signal Type or	Limit Factor*		Spec Limit Criteria	Comments/ Observations	
V/m	Waveform	ST	EL	SL	V/m	
2.0	SINE				1.0	
2.0	SINE			/	1.0	·
2.5	SINE				1:0	
2.0	SINE			V	1.6	
2.0	SINE			/	1.0	
2.0	JINE			/	1.0	
2.0	SINE			/	1.0	
2.0	5 - V£			V	1.0	HERIZUNTAL POLARY.
.÷ . t	SINE			/	1.0	
2.0	SING				1.0	
.z.c	SINE			<i>'</i>	1,0	VERTICAL POLARGE.
5.0	SINE			V	1.0	
.;.¢	SINE			~	i. c	17 9
2,0	5/NE			~	1.0	
2.0	SINE			~	1.0	
12.2	SINE			V	12 V/m	
37.4	SWE			V	37. V/m	Vertical Horizonta
7.2	sine			/	6.9 V/m	Vertical / Horriz
14.1	Sine			V	14.0	Vertical/Horiz
100	Sine			1	9.8	Vertical/Homz
36.5	Sine			V	38	Vertical / Horiz
5.0	Sine			~	4.8	Vertical / Heriz
19.0	Sine			-	18.4	Vortical / Horiz
10.0	Sin			V	10.0	Vortical/Horz
45	Sim			4-	4,3	Vertical /Hriz
	Level V/m  2.0  2.0  2.0  2.0  2.0  2.0  2.0  2.	Level         OT           V/m         Waveform           2.0         SINE           2.1         SINE           2.1         SINE           2.1         SINE           2.0         SINE           37.4         SINE           12.2         SINE           12.2         SINE	Level         OT         Waveform         ST           2.0         SINE	Level       Or         V/m       Waveform       ST       EL         2.0       SINE          2.0       SINE          2.0       SINE          2.0       SINE          2.0       SINE          2.1       SINE          2.1       SINE          2.1       SINE          2.1       SINE          2.1       SINE          2.0       SINE          37.4	Level   V/m   Waveform   ST   EL   SL	Level   V/m   Waveform   ST   EL   SL   V/m

<sup>\*</sup> ST = Susceptibility Threshold, EL = Equipment Limit, SL = Specification Limit

TEST DATA SHEET 7 (Sheet 2 of 2)

A±-2010.00 ▼ 22 Sep 4.

Frequency Range	Test Level	Signal Type or		Limit Factor		Spec Limit Criteria	Comments' Observations
	V/m	Waveform	ST	EL	SL	V/m	
1-2 GHZ	2	5/2=			~	2	HOR'ECHTAL FAT.
2-4 GHZ	2	SINE			V		
4-8 CH=	2	51915				2	
8-10 647	2	SINE			/	2	
10 - 12 CH7	2	SMÉ				2	
12 - 14 GA7	2	SINIÉ			V	~	
14 -16 GHZ	ユ	SINE			<b>V</b>	2	
16 - 17 CH3	2	SINE			V	2	<b>\</b>
17-18 GH7	2	511.2 =			1	2	HORFECHTEL PAT
1-2 GH2	2	5,,,,=			V	2	VERTICAL PINTER
2-4 GHZ	2	SINE			V	2	
4-8 GHZ	2	SINE			1	2	
Q-10 EHZ	2	5117			12	0 -	
10-12 GH=	2	SINE			1	2	
12-14 GHZ	2	SINE			/	2	
14-16-64:	2	SINE			V	2	
16-17 CHZ	2	SIA) Ē				2	J
17-18 GHZ	2	5205			1	. 2	VERTICAL ANTENN
	·						,
7800 MHz	8.5Y/m	Sine				BV/m	Vertical/Horiz

<sup>\*</sup> ST = Susceptibility Threshold, EL = Equipment Limit, SL = Specification Limit

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v.				

## **DOCUMENT APPROVAL SHEET**



TITLE			DOCUMENT NO.			
Integrated Advanced Microwave So	unding Unit-A (AMS	SU-A)	Report 11411			
Engineering Test Report,			26 February 1999			
Electromagnetic Interference (EMI)/			,			
Electromagnetic Compatibility (EMC	) for the METSAT/					
INPUT FROM: DATE	CDRL:	SPECIFICATION ENGINEER:	-	DATE		
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CHECKED BY:	DATE	JOB NUMBER:		DATE		
APPROVED SIGNATURES			DEPT, NO.	DATE		
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		(), ()		1 1 /		
Product Team Leader (L. Paliwo	da) Yun 1	alwoods	7888	2/20/79		
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Systems Engineer (R. Platt)	TX UH WE	ett –	8311	3/1/99		
Systems Engineer (N. Flatt)	1		0011	1		
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Design Assurance (E. Lorenz)	Copyring		8331	1////		
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By my signature, I certify the above document ha	s been reviewed by me an	d concurs with the technical				
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